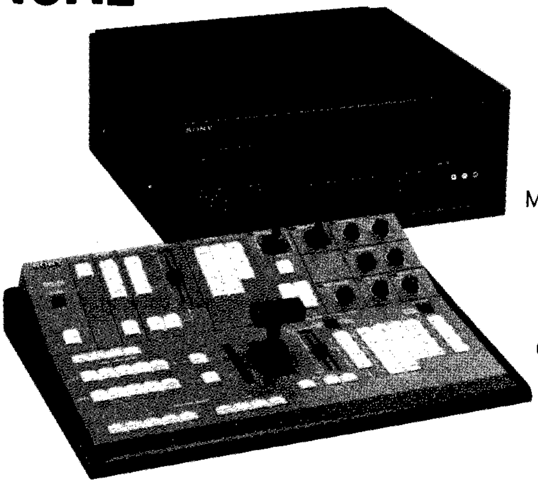
# XV-Z1000OE

# SERVICE MANUAL

*AEP Model*
*UK Model*
*E Model*
*Australian Model*



## SPECIFICATIONS

### Electrical characteristics

| | |
|---|---|
| Video system | PAL system |
| Signal system | Double frame synchronizing<br>(Sync: internal or external selectable) |
| Video switching | Vertical blanking switching |
| Video processing | Component system<br>(Y/R-Y/B-Y) |
| Quantization | 8-bit quantization |
| Sampling rate | 14.218 MHz for Y,<br>3.55 MHz for R-Y/B-Y |
| Memory capacity | 1 frame (2 fields) per (A/B) system |

### Special effects

| | |
|---|---|
| MIX | Mixing<br>4 Modified mixing<br>• Mosaic, strobe, solarization A and solarization B |
| WIPE | Wipe<br>• 27 wipe patterns<br>• Wipe border selection<br>Hard/soft/border<br>(Border colour is selectable with the BACK COLOUR control for particular patterns.) |
| CHROMA KEY | Chroma key<br>• Back colour, selectable<br>Hue (360°) and key level |
| EXT KEY | External key<br>• Key level, adjustable<br>• EXT KEY edge selection<br>Hard/Border/Shadow<br>(Edge colour is only black.) |
| CUT | Cut |
| MULTI EFFECT | Multiple effects<br>• Frame/field picture<br>• Multiple screen with title index (9 frames)<br>• Still, strobe and PinP<br>• Mosaic, negative, solarization, colouring A, random, colour correct, bit defect, soft focus, monotone, zoom in, zoom out, V enhance and after image |
| Audio output selection | Linked in the mixing lever position |

### Inputs

| | |
|---|---|
| SOURCE IN-1/2/3/4 | Video input (4 systems)<br>• Phono jacks/S connectors (switchable)<br>1.0 Vp-p, 75 ohms, unbalanced, sync negative<br>Audio input (4 systems)<br>• Phono jacks<br>Input level: –7.5 dBs[1]<br>Input impedance: 47 kilohms or more |

– Continued on page 2 –

# DIGITAL SPECIAL EFFECTS GENERATOR

MICROFILM

SONY®

| | |
|---|---|
| EXT IN | External video/sync input<br>• Phono jack<br>VBS: 1.0 Vp-p, 75 ohms |
| AUX IN | External audio input<br>• Phono jacks<br>Input level: –7.5 dBs[1]<br>Input impedance: 47 kilohms or more |
| GPI IN | General Purpose Interface input<br>• Miniplug |

## Outputs

| | |
|---|---|
| PROCESSED OUT-1/2/3/4 | Video output (4 systems)<br>• Phono jacks/S connectors<br>1.0 Vp-p, 75 ohms, unbalanced, sync negative<br>Audio output (4 systems)<br>• Phono jacks<br>Output level: –7.5 dBs[1]<br>Output impedance: 10 kilohms or less |
| F S OUT-A/B | Frame synchronized video output (2 systems)<br>• Phono jacks/S connectors<br>1.0 Vp-p, 75 ohms, unbalanced, sync negative<br>Audio output (2 systems)<br>• Phono jacks<br>Output level: –7.5 dBs[1]<br>Output impedance: 10 kilohms or less |
| SELECT OUT-A/B | Line selection video output (2 systems)<br>• Phono jacks/S connectors<br>1.0 Vp-p, 75 ohms, unbalanced, sync negative<br>Line selection audio output (2 systems)<br>• Phono jacks<br>Output level: –7.5 dBs[1]<br>Output impedance: 10 kilohms or less |
| MONITOR OUT | Monitor video output (1 system)<br>• Phono jack/S connector<br>1.0 Vp-p, 75 ohms, unbalanced, sync negative<br>Monitor audio output (1 system)<br>• Phono jacks<br>Output level: –7.5 dBs[1]<br>Output impedance: 10 kilohms or less |

## Power requirements

| | |
|---|---|
| Power requirements | European models except United Kingdom:<br>220 V AC, 50 Hz<br>United Kingdom models:<br>240 V AC, 50 Hz |
| Power consumption | 80 W |

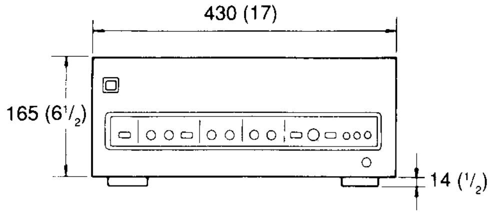
## Environmental characteristics

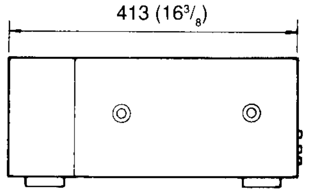
| | |
|---|---|
| Operating temperature | 5° C to 35° C (41° F to 95° F) |
| Storage temperature | –20° C to 60° C (–4° F to 140° F) |

## Physical characteristics

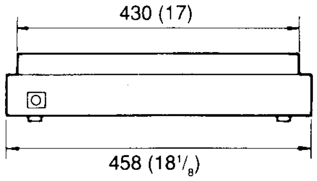
| | |
|---|---|
| Weight | Main unit: Approx. 13 kg (28 lb 11 oz)<br>Control unit: Approx. 3.85 kg (8 lb 8 oz) |
| Dimensions | See the illustrations. |

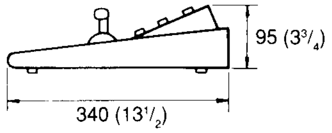
Main unit





Control unit





## Supplied accessories

Control cable (1)
Operating instructions (1)

Design and specifications are subject to change without notice.

**Note**

This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

---

[1] 0 dBs = 0.775 Vrms

# SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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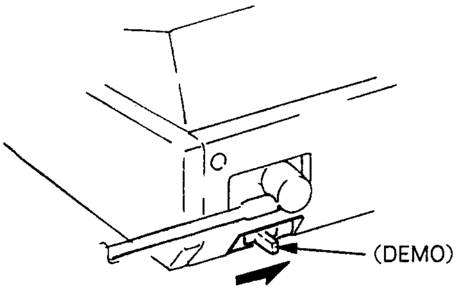
# SECTION 1
# SERVICING NOTES

## 1-1. DEMO MODE

1) Setting the switch on the rear panel of the control unit to DEMO provides an automatic display of representative special effects of the digital SEG which appear one after another. Leaving the switch set to DEMO will set the unit to the demo mode by simply pressing the POWER switch of the main unit.

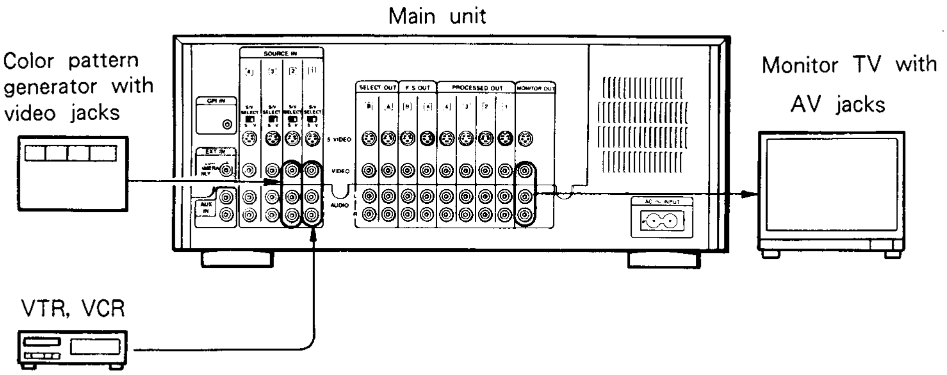


Rear panel of control unit

**Precautions in the Use of the Demo Mode**

- Be sure to input a video signal to each of the SOURCE IN-1 and SOURCE IN-2 jacks. If input is lacking, the demo mode will not operate properly.
- The control unit cannot be operated while the switch is in the DEMO position. To operate the control unit the switch is returned to the original position. The digital SEG maintains the special effects that were present when the switch position was returned. To set the initial condition, press the BYPASS button or the POWER switch.

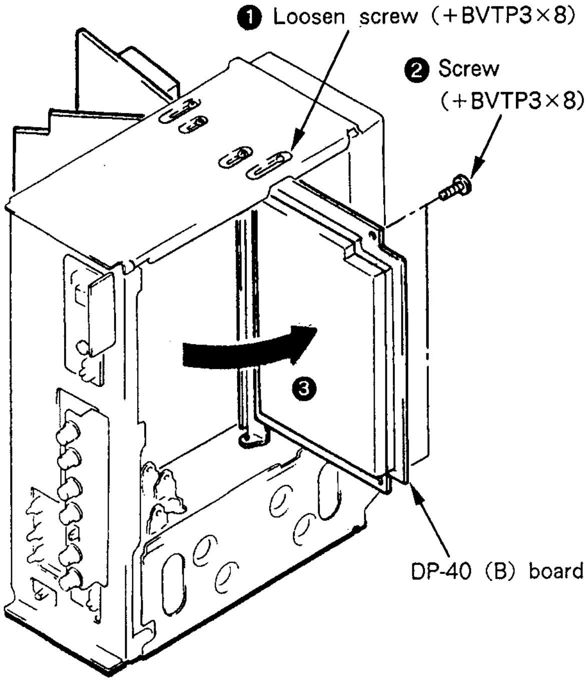
2) Connection Method



- Be sure to input signals of 2 systems such as a color pattern and a VCR playback signal to SOURCE IN-1 and -2.

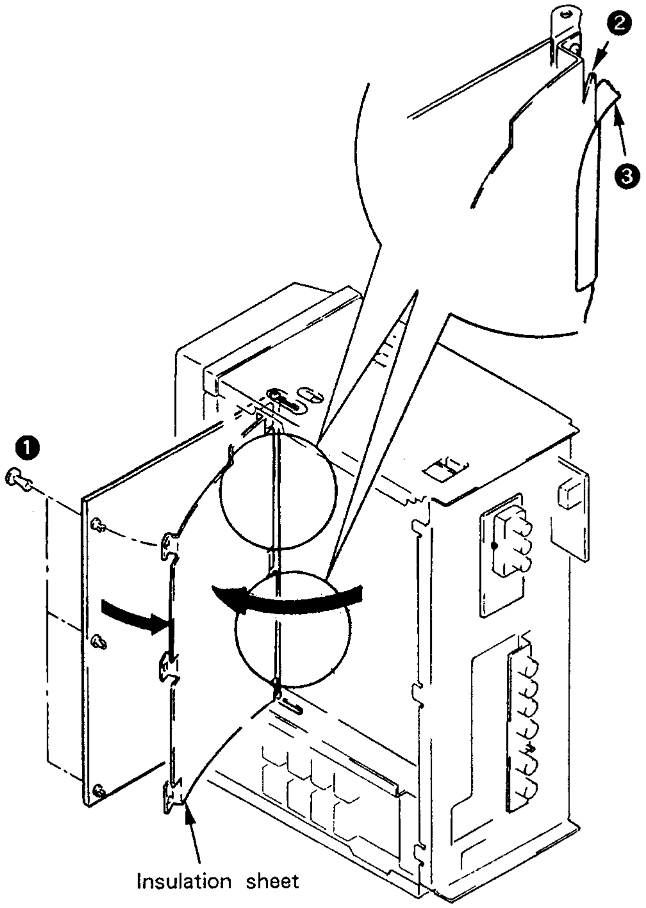
### 1-2. Service Position

1) Stand the unit with the power supply section on the bottom.
2) Loosen screw ❶ (+BVTP3×8) a little.
3) Remove screw ❷.
4) Open the circuit board in the direction of arrow ❸.
5) Lightly tighten screw ❶.
6) PP-10, CB-30, and DP-40 (B) can also be opened in the same way.


❶ Loosen screw (+BVTP3×8)
❷ Screw (+BVTP3×8)
❸
DP-40 (B) board

### 1-3. Precautions when Removing the Insulation Sheet

1) Remove nylon rivet ❶ when removing the insulation sheet of the PP-10 circuit board.
2) Apply tape ❸ to cut ❷ of the insulation sheet to prevent it from coming into contact with the pattern.


❷
❸
❶
Insulation sheet

# SECTION 2 GENERAL

This section is extracted from instruction manual.

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# Chapter 1

# General Description

This chapter describes how to use the XV-Z10000E manual effectively and how to operate the XV-Z10000E safely.
This chapter includes the following sections.

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## INTRODUCTION

The XV-Z10000E Digital Special Effects Generator (hereafter referred to as digital SEG) processes two video input signals even if they are not synchronous with each other. Using your digital SEG in a video system, you will never need to worry about making complex sync signal connections among the pieces of video equipment you are using. Simply supply the video and audio outputs of your video equipment to the digital SEG, and the SEG will process and output the video and audio signals that you want.
The digital SEG stores the processed pictures in its digital frame memory once and retrieves them to output with various effects.

# Purpose and Scope of the XV-Z10000E Manual

This manual separates the information necessary for operating the digital SEG into three chapters. Each chapter is indexed as listed below:

| | |
|---|---|
| **Chapter 1.**<br>**General Description** | This section is a must for you to read and understand before getting started with the digital SEG. |
| **Chapter 2.**<br>**Connections and Operation** | Although this chapter is designed to meet mainly the production needs of the average person, details that can enhance the video production are introduced. |
| **Chapter 3.**<br>**Supplementary Information and Physical Description of the Mechanism** | This section supplements the information necessary for fully understanding the SEG operation. The functional relationship between buttons and controls are summarized in tables. This section also briefly describes the name and function of parts on the digital SEG. |

**The use of this manual may be different depending on how familiar you are with a digital SEG. The list below is a guide for you to read through this manual effectively.**

| | |
|---|---|
| If you are a first time digital SEG user | 1. Read through Chapter 1 thoroughly first.<br>2. Follow the instructions described in Chapter 2. This will be an introductory exercise for you for learning to use the digital SEG.<br>3. Refer to Chapter 3 and the definition of technical terms listed at the bottom of pages when necessary. |
| If you are an expert SEG operator | 1. Read through Chapter 1 and then the Hooking Up the Digital SEG and Peripherals and Starting Operation sections in Chapter 2. After that, you will probably use the SEG with ease.<br>2. Whenever you need to know the function of controls or buttons, refer to the Overall Appearance and Purpose of the Mechanism section in Chapter 3.<br>3. Read through Chapter 2 once, if you think it is necessary. |

**If you want an explanation of a particular part**

Look in the index in the Overall Appearance and Purpose of the Mechanism section in Chapter 3. Parts are indexed and listed in alphabetical order under about a hundred different names with their functions, so it is usually easy to find what you want. This section also shows you which part is where.

A general rule of thumb for getting used to operating the digital SEG is not just to read through this manual but to manipulate the buttons and controls as you follow the step-by-step instructions.

**To find the operation that suits your purpose**

Look in the Index on Operations at the end of the manual, and refer to the operating procedures on the pages indicated in the index.

## Conventions used in this manual

Be sure you understand the naming rules of the input/output jacks, controls, buttons, switches and video signals.

### Nomenclature of the input/output jacks, buttons, controls and switches

There are several similar jacks used for inputting and outputting signals. For example, there are four groups of pairs of VIDEO, AUDIO-L and AUDIO-R jacks for the 1, 2, 3 and 4 input video and audio sources. There are also the same groups of pairs of buttons on the control unit for the A and B line (bus) selections.
In this manual, they are named as follows:

**Examples**

**(1) BYPASS button**

Except for some ONs and OFFs, the buttons (and settings) on the main unit and the control unit are in capital letters. There are two POWER switches; one is on the main unit and the other is on the control unit. In this manual, wherever they appear, which is which is clearly stated.

**(2) SOURCE IN-1 jack**

A number, if placed after a part name or following the character A or B, identifies the input/output source number assigned for the buttons, jacks or connectors.

**(3) LINE-B-4 button**

The character A or B, if placed directly after the name or followed by a source number, is used for the line selection buttons, audio selection buttons and connectors. It identifies the selected input/output line (bus) source supplied to the SEG at the input/output jacks.

**(4) SOURCE IN-1 AUDIO-L jack**

The character L or R identifies the audio channel assigned for the audio input/output jacks.

### Nomenclature of the equipment connected to the digital SEG, input/output jacks, and selected pictures

The SEG has four groups of input jacks as follows:

SOURCE IN-1
SOURCE IN-2
SOURCE IN-3
SOURCE IN-4

**The equipment connected to these jacks is referred to as player in this manual.**

The SEG has nine groups of output jacks. However, the output jack groups which correspond to the SOURCE IN-1/2/3/4 jacks are as follows:

PROCESSED OUT-1
PROCESSED OUT-2
PROCESSED OUT-3
PROCESSED OUT-4

**The equipment connected to these jacks is referred to as recorder in this manual.**

Any two signals out of four signals supplied to the SOURCE IN-1/2/3/4 jacks are selected with the LINE-A and LINE-B buttons for creating special effects. The two signals (pictures) selected are called:

LINE-A picture
LINE-B picture

Although there are four PROCESSED OUT jacks, the same signal (processed signal of the LINE-A and LINE-B pictures) is output at all the jacks.

---

**Special effects generator (SEG)**
A device to create video illusions.

**Jack**
A socket; a plug receptacle.

**Plug**
An electrical male connector that fits into a jack.

# Notes on Use

## On safety

- The nameplate indicating operating voltage, power consumption, etc., is located on the rear panel of the main unit.
- Operate the XV-Z10000E SEG on the specified voltage only.
- Should any solid object or liquid fall into the unit, unplug the main unit and have the system checked by qualified personnel before operating the SEG any further.
- Unplug the main unit from the wall outlet if it will not be used for an extended period.
- The unit is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the unit itself has been turned off.

## On installation

- Allow adequate air circulation to prevent internal heat buildup. Do not block the fan at the rear of the main unit during operation.
- Do not install the units near heat sources such as radiators or air ducts.
- Do not install the units in a place subject to direct sunlight and/or excessive dust.
- Avoid physical stress to the units such as mechanical vibration or shock.

## On connection

- Before connecting, be sure to turn off all equipment.
- Insert plug securely, as loose connections may cause hum and noise.
- To disconnect the cord, pull it out by the plug. Never pull the cord itself.
- To avoid interference, turn off the equipment not in use.
- If noise occurs in the picture or sound, move the pieces of equipment farther away from each other.

## On cleaning

Clean the cabinet, panel and controls with a dry soft cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent such as alcohol or benzine which may damage the finish.

## On packing

Do not throw away the carton and packing materials. They make an ideal container in which to transport the units. When shipping the units to another location, repack it as illustrated on the carton.

# Features

## Digital memory behind the system

- The digital frame memory allows multiple special effects to be made on the two input video signals which are not synchronous with each other.
  It also allows multiple screen, still, mosaic and other effects.
- The digital memory built in the SEG functions as a Frame Synchronizer (video signal phase conversion unit).
- The use of two-line digital frame memory allows the SEG to be equipped with the two input-thru outputs which are synchronized with each other. These outputs are referred to as double Frame Synchronized (F S) outputs.

## Desktop type operation panel

The control unit is separated from the main unit. This allows you to operate the SEG comfortably when it is placed on a desk.

## S VIDEO input and output connectors

High quality video processing is possible when video equipment is connected via the S VIDEO input and output connectors.

**Note on video signal delay**
The SEG stores the video signal once in its frame memory before outputting it but it does not store the audio signals. Therefore, the video signals will always be slightly behind the accompanying audio signals. Usually, this delay is not noticeable. If necessary, supply the audio signals to an optional surround processor equipped with sound delay function (ex. Sony's SDP-777ES) so that the audio signals can be delayed to match the video signal's timing.

**Note on video signal frames**
The video signal is retrieved from the frame memory in a different timing from when it is stored so that the output video signal can be synchronized with the internal or external sync reference signal.
Notice that one field of the input video signal, therefore, will be dropped out or retrieved again every time the difference of the timing between the video input signal and the sync reference signal equals one frame period.
Note that the picture may not be displayed correctly when you repeat recording by frames.

# Chapter 2

## Connections and Operation

This chapter describes connections and operation using all switches, buttons, controls and connectors.
This chapter includes the following sections.

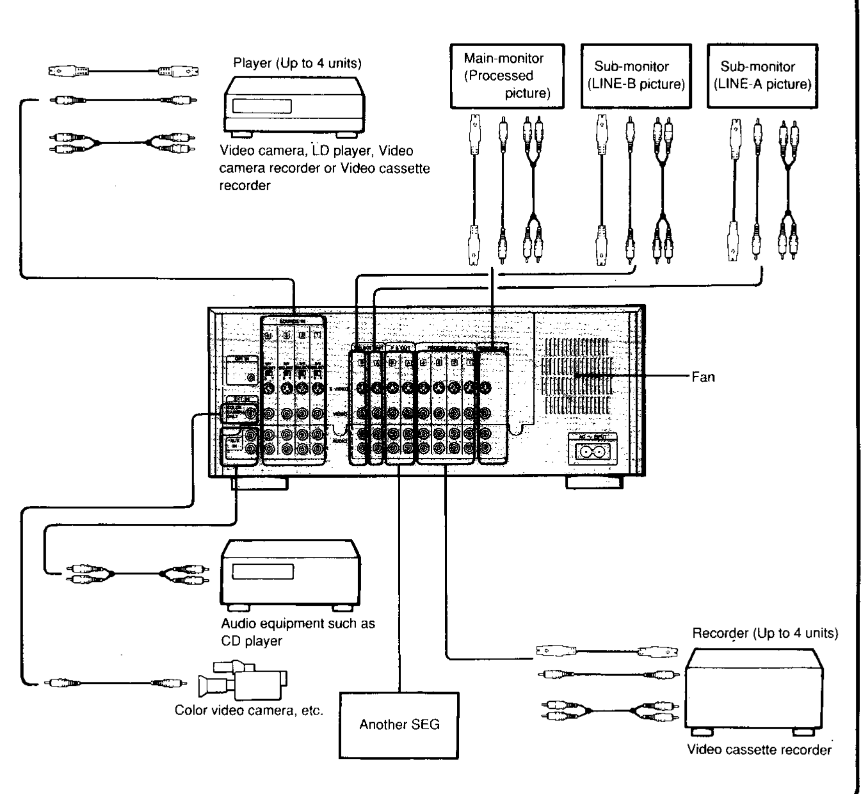
1. Hooking Up the Digital SEG and Peripherals ..................................... 12
2. Starting Operation ............................................................................... 20
3. Using the Buttons for Signal Source Selection .................................... 24
4. Using the Buttons and Controls for Multiple Effects ............................ 34
5. Using the Buttons and Controls for Special Effects .............................. 52
6. Using the Frame Synchronized Video Output ...................................... 70
7. Adjusting the Controls on the Main Unit ............................................. 71
8. Using the DEMO (demonstration) Mode Switch .................................. 73

# Hooking Up the Digital SEG and Peripherals

Although up to four players and four recorders can be connected to the digital SEG, this section deals mainly with how to make connections using two players, one recorder and one video monitor.

With this connection, most effects and functions available on the digital SEG can be simply recorded and tested. Hook up the peripherals to the SEG as illustrated below.

**Connections between the SEG and peripherals**


Player (Up to 4 units)
Video camera, LD player, Video camera recorder or Video cassette recorder
Main-monitor (Processed picture)
Sub-monitor (LINE-B picture)
Sub-monitor (LINE-A picture)
Fan
Audio equipment such as CD player
Color video camera, etc.
Another SEG
Recorder (Up to 4 units)
Video cassette recorder

---

**VCR**
Video Cassette Recorder
**VTR**
Video Tape Recorder
**Monitor**
Video monitor

**Recommended Connecting Cords**
See pages 17 and 18.

## Units necessary for operating the digital SEG

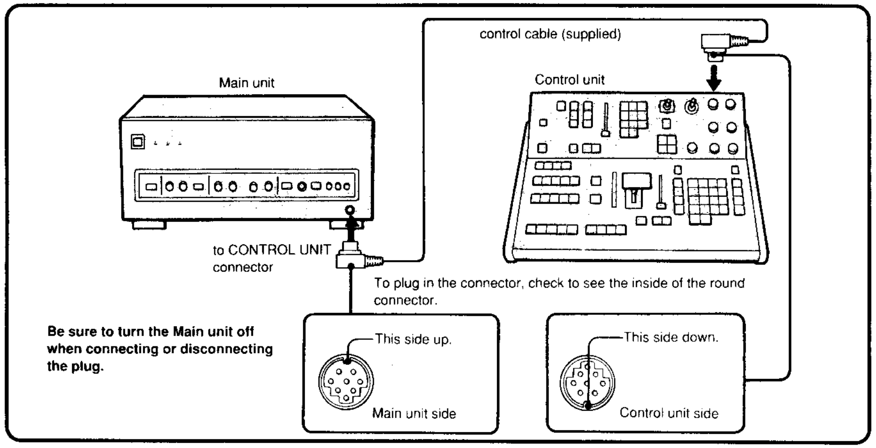
| | |
|---|---|
| **For testing most effects and functions, you must have:** | • One player (or two players, if possible)<br>• One video monitor |
| **For simple but practical effects recording, you must have:** | • Two players<br>• One recorder<br>• One video monitor. |
| **For fully equipped effects recording, you should have:** | • Four players/recorders<br>• One sync feeder (a colour video camera)<br>• Three video monitors (or at least one video monitor) |

# Hooking up the main unit to the control unit

The main unit and the control unit are supplied as a pair and are meant to be operated as a single unit.

To use them as a single unit, connect one end of the supplied control cable to the CONTROL UNIT connector on the main unit and the other end to the connector on the control unit. The connectors are interchangeable.

To make the connection, see the illustration below.


control cable (supplied)
Main unit
Control unit
to CONTROL UNIT connector
This side up.
Main unit side
This side down.
Control unit side

To plug in the connector, check to see the inside of the round connector.

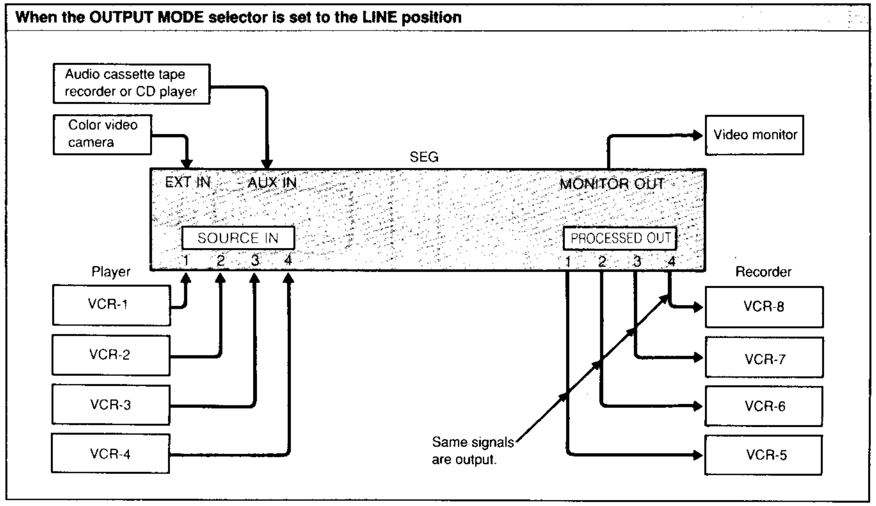
**Be sure to turn the Main unit off when connecting or disconnecting the plug.**

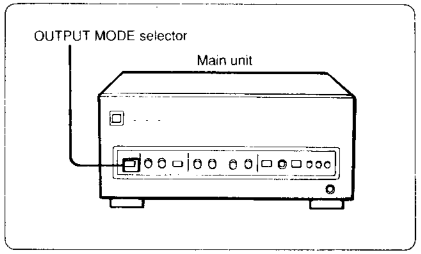
# Notes on video equipment connection

## When you use players and recorders independently

If you do not hook up same video cassette recorders to the SEG both at the SOURCE IN and PROCESSED OUT jacks, set the OUTPUT MODE selector, located on the front of the main unit, to the LINE position.

**When the OUTPUT MODE selector is set to the LINE position**


Audio cassette tape recorder or CD player
Color video camera
SEG
EXT IN
AUX IN
MONITOR OUT
Video monitor
SOURCE IN
PROCESSED OUT
1 2 3 4
1 2 3 4
Player
Recorder
VCR-1
VCR-2
VCR-3
VCR-4
VCR-8
VCR-7
VCR-6
VCR-5
Same signals are output.


OUTPUT MODE selector
Main unit

---

**LINE**

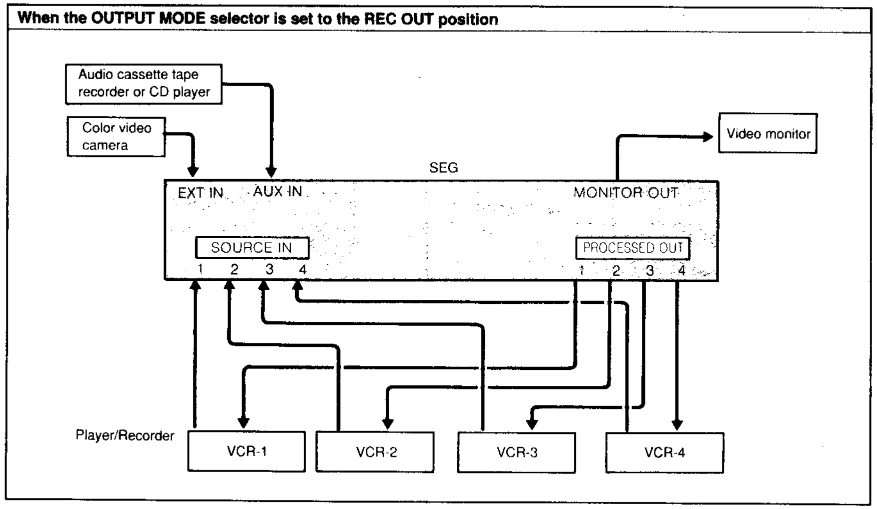
The technical term used for the line (A or B) through which signals are sent is generally called BUS (A bus or B bus); however, in this manual, it is referred to as LINE (LINE-A or LINE-B).

## When you use recorders also as players

When you hook up the same videocassette recorder(s) to the SEG both at the SOURCE IN and PROCESSED OUT jacks, to use it (them) both for playback and for recording, set the OUTPUT MODE selector, located on the front of the main unit, to the REC OUT position.

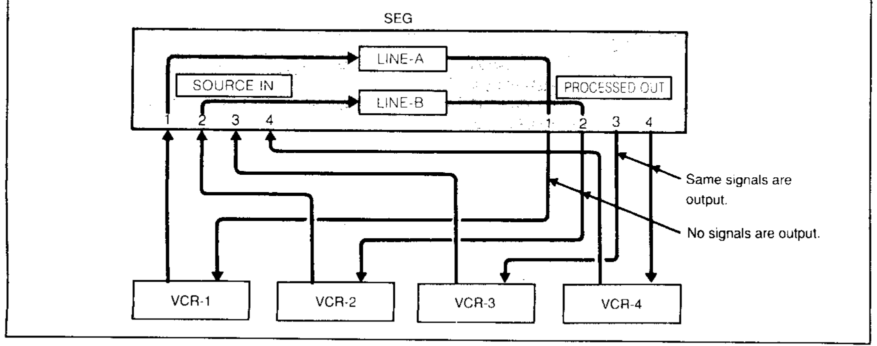
If you set the OUTPUT MODE selector to LINE, the selected signal path will create an infinit loop via the recorder and the SEG's circuit will oscillate.

**When the OUTPUT MODE selector is set to the REC OUT position**


Audio cassette tape recorder or CD player
Color video camera
SEG
Video monitor
EXT IN
AUX IN
MONITOR OUT
SOURCE IN
1 2 3 4
PROCESSED OUT
1 2 3 4
Player/Recorder
VCR-1
VCR-2
VCR-3
VCR-4

As shown in the illustration below, if the signal that enters the digital SEG at the SOURCE IN-1 or SOURCE IN-2 jack is output at the PROCESS OUT-1 or PROCESS OUT-2 jack, a loop will be created via the video cassette recorder. In the example below, the LINE-A selects the SOURCE IN-1 signal and the LINE-B selects the SOURCE IN-2 signal with the OUTPUT MODE selector set to the REC OUT position. Notice that there is no output at the PROCESSED OUT-1 and PROCESSED OUT-2 jacks.

**When VCR-1 is selected with the LINE-A-1 button and VCR-2 is selected with the LINE-B-2 button**


SEG
LINE-A
LINE-B
SOURCE IN
PROCESSED OUT
1 2 3 4
1 2 3 4
Same signals are output.
No signals are output.
VCR-1
VCR-2
VCR-3
VCR-4

## Making connections to the input jacks

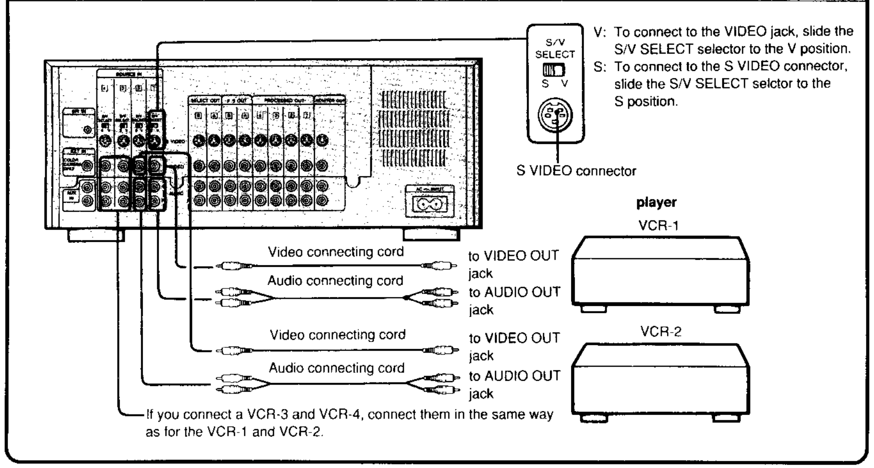
There are four input jacks (one group) as follows:

**SOURCE IN jack group**

- SOURCE IN-1
- SOURCE IN-2
- SOURCE IN-3
- SOURCE IN-4

Connect the video output of one player to the SOURCE IN-1 VIDEO jack, and the video output of the other player to the SOURCE IN-2 VIDEO jack. If the player connected to the SOURCE IN-1 jack has L-and-R audio outputs, connect them to the SOURCE IN-1 AUDIO-L and SOURCE IN-1 AUDIO-R jacks. Do the same for the players connected to the SOURCE IN-2 jacks. If you use two more players, connect them to the SOURCE IN-3 and SOURCE IN-4 jacks in the same way.

**Connections to the players**


S/V SELECT
S V
S VIDEO connector
player
VCR-1
VCR-2
Video connecting cord
Audio connecting cord
to VIDEO OUT jack
to AUDIO OUT jack
Video connecting cord
Audio connecting cord
to VIDEO OUT jack
to AUDIO OUT jack

V: To connect to the VIDEO jack, slide the S/V SELECT selector to the V position.
S: To connect to the S VIDEO connector, slide the S/V SELECT selctor to the S position.

If you connect a VCR-3 and VCR-4, connect them in the same way as for the VCR-1 and VCR-2.

**If you have only one player**
Connect it to the SOURCE IN-1 jacks.
With this connection, you can test most of the effects and functions.

**If your player has a sharpness control**
Set it to the centre position. Otherwise, the appropriate colour will not be displayed.

**If your player has only one audio output**
Connect the audio output of the player both to the SOURCE IN AUDIO-L and SOURCE IN AUDIO-R jacks using an RK-C71 (not supplied) cable, and the unit will output the same signal on both the L and R output channels.
If you do not have an RK-C71 (not supplied) cable, connect the audio output of the player to the SOURCE IN AUDIO-L jack. In this case, the output is, of course, available only on the L channel.

**AUDIO L (left) and R (right) plug and jack identification**
Red is for right channel and white is for left channel. Be sure to plug the red plug into the red jack, and the white plug into the white jack.

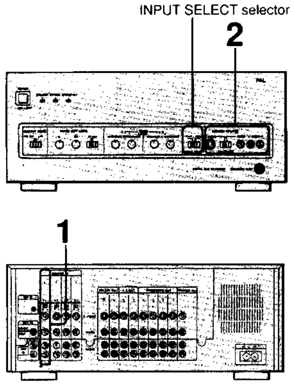
**VIDEO jack identification**
Yellow is assigned for VIDEO jacks.

## Notes on use with the SOURCE IN-4 jack groups

There are two SOURCE IN-4 input jack groups located on the main unit as listed below.

- VIDEO and AUDIO jacks (or S VIDEO connector) at the rear
- VIDEO and AUDIO jacks (or S VIDEO connector) at the front

You cannot use two SOURCE IN-4 input groups at the same time.
Selection of the input groups must be made with the INPUT SELECT selector located on the front of the main unit.
Set it as follows:



**1 To use the VIDEO and AUDIO jacks at the rear**

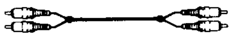
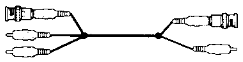
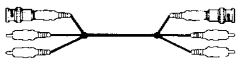
Set the INPUT SELECT selector to the REAR position. If you use the S VIDEO connector at the rear, slide the S/V SELECT selector to the S position.

**2 To use the VIDEO and AUDIO jacks at the front**

Set the INPUT SELECT selector to the FRONT position. If you use the S VIDEO connector at the front, slide the S/V SELECT selector to the S VIDEO position.

## Recommended Connecting Cords

For connection, the use of following connecting cords (not supplied) is recommended.

| | |
|---|---|
| **YC-15V/YC-15EV (1.5 m)**<br>**YC-30V/YC-30EV (3 m)** | S video input/output 4-pin mini DIN / 4-pin mini DIN |
| **VMC-1S (1 m)**<br>**VMC-3S (3 m)** | Video input/output Phono plug (yellow) / Phono plug (yellow) |
| **RK-C74 (1.5 m)** | Audio input/output (stereo)  Phono plug (×2) / Phono plug (×2) |
| **VMC-910MSP (1 m)**<br>**VMC-920MSP (2 m)** | Video and audio input/output (stereo ↔ monaural) BNC (or video phono) plug / BNC (or video phono) plug  Phono plug (×2) / Phono plug |
| **RK-C71 (3 m)** | Audio input/output (monaural ↔ stereo) Phono plug / Phono plug (×2) |
| **VMC-810SP (1 m)**<br>**VMC-820SP (2 m)** | Video and audio input/output (stereo) BNC (or video phono) plug / BNC (or video phono) plug  Phono plug (×2) / Phono plug (×2) |

# Making connections to the output jacks

There are four output jack groups as follows:

**MONITOR OUT jack group**

Connect to the video monitor if you have only one video monitor.

**PROCESSED OUT jack group**

- PROCESSED OUT-1
- PROCESSED OUT-2
- PROCESSED OUT-3
- PROCESSED OUT-4

Connect to the recorders. The signals are the same from all the jacks when the OUTPUT MODE selector is set to the LINE position.

**F S OUT jack group**

- F S OUT-A
- F S OUT-B

Connect to another SEG.
The video signals output at these jacks are synchronized with each other.

**SELECT OUT jack group**

- SELECT OUT-A
- SELECT OUT-B

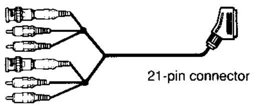
Connect to the two sub-monitors if you have three video monitors.
The signals output from these jacks are not synchronized with each other.

**Note**

All the video output signals except the ones output at the SELECT OUT jacks are digitally processed and modified; therefore, the picture output from the SEG may be cropped off when it is monitored.

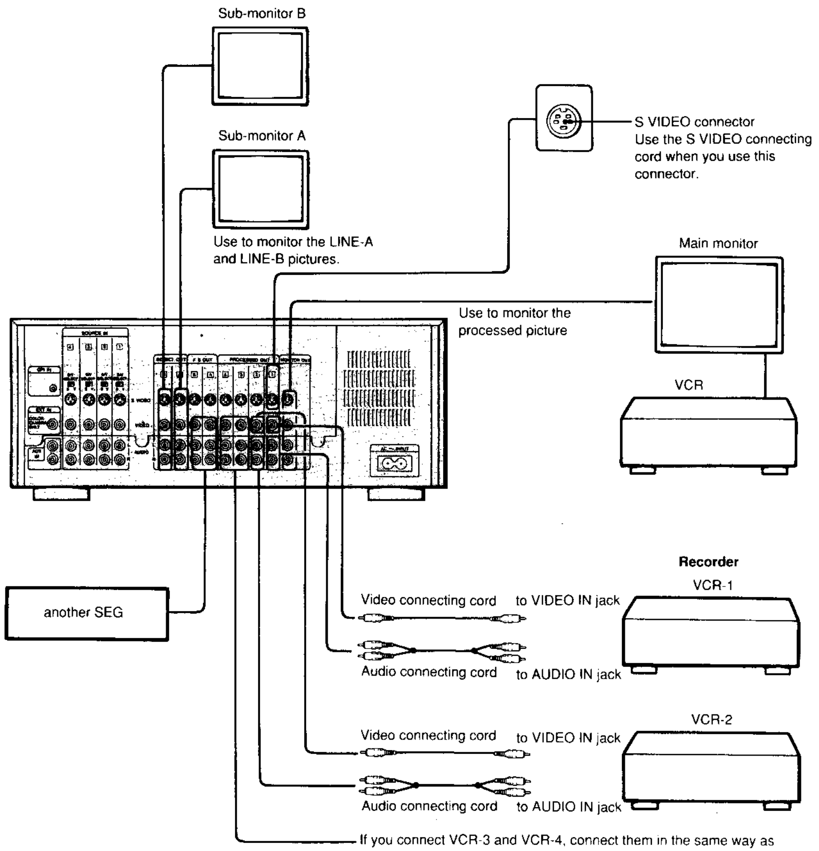
**To use your television with EURO-AV (21-pin) as a video monitor**

- If your television has EURO-AV (21-pin), make the connection with the VMC-2106S (not supplied). When your television is a monaural type, the sound on the L channel of the player is output to the television.

| | |
|---|---|
| **VMC-2106S (1.5 m)** | Video and audio input/output (stereo) BNC (or video phono) plug (×2)  21-pin connector / Phono plug (×4) |

Connect the video equipment as shown below.

**Connections to the recorders**


Sub-monitor B
Sub-monitor A
Use to monitor the LINE-A and LINE-B pictures.
S VIDEO connector
Use the S VIDEO connecting cord when you use this connector.
Main monitor
Use to monitor the processed picture
VCR
another SEG
Recorder
VCR-1
Video connecting cord
to VIDEO IN jack
Audio connecting cord
to AUDIO IN jack
VCR-2
Video connecting cord
to VIDEO IN jack
Audio connecting cord
to AUDIO IN jack

If you connect VCR-3 and VCR-4, connect them in the same way as for the VCR-1 and VCR-2. Generally, connect the recorder to one of these jacks to record the processed picture.

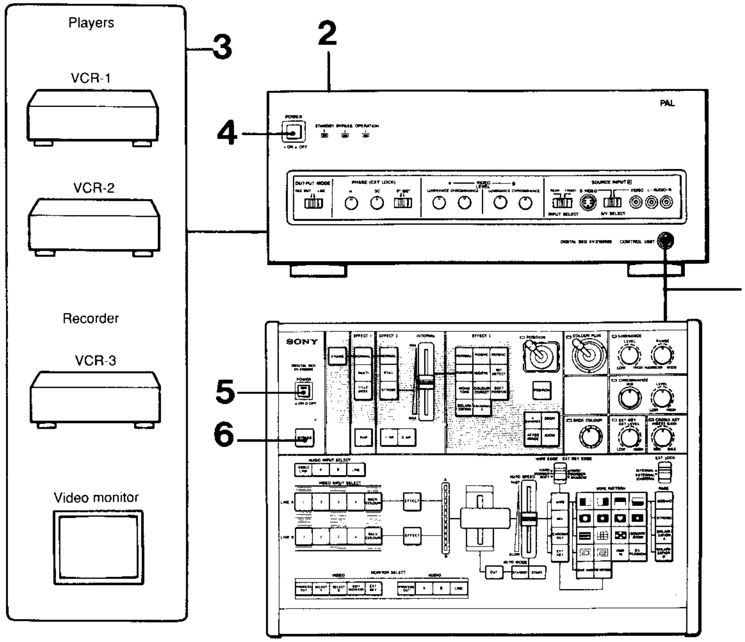
**To record the signal which is output at the MONITOR OUT jacks**

Connect a recorder for recording directly to the MONITOR OUT jack or to the output jack of the monitor connected to the MONITOR OUT jack. Be sure not to connect the output jack of the recorder to the SOURCE IN jack of the SEG. Doing so will make an infinit loop via the recorder and the output will not be normal.

# Starting Operation

## Activating the main unit and the control unit

To activate the digital SEG, proceed in the following order.


Players
VCR-1
VCR-2
Recorder
VCR-3
Video monitor
1
2
3
4
5
6
PAL
SONY

**1** To operate the digital SEG as a single unit, check to see that the main unit is connected to the control unit using the supplied control cable. If not, hook them up.

**2** To power the digital SEG, plug the mains lead at the rear of the main unit into a wall outlet.

**3** To supply the source signals to the SOURCE IN jacks, turn on the equipment hooked up to the digital SEG.

**4** To put the SEG in the STANDBY mode, **depress the POWER switch on the main unit to ON**. The STANDBY lamp next to the switch lights up in red. Do not disconnect or connect the CONTROL cable when the SEG is powered.

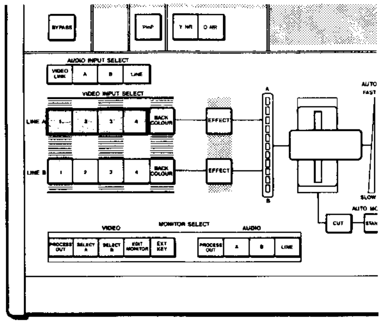
**In the STANDBY mode**

The control panel is still deactivated but is ready to be powered.

**5** To put the SEG in the BYPASS mode, **press the POWER switch on the control unit.** The STANDBY lamp on the main unit goes out, and the POWER switch on the control unit and the BYPASS lamp on the main unit light up in green. The BYPASS button and the LINE-A-1 button on the control unit also light up.

**In the BYPASS mode**

- Only the LINE-A-1 through LINE-A-4 VIDEO INPUT SELECT buttons are activated so that you can check to see if the video signals are actually input to the SOURCE IN jacks on the SEG. Hook up a video monitor to the SEG at the MONITOR OUT connector and press the desired LINE-A button for checking.
- The fan starts rotating.


BYPASS
PinP
Y NR
D NR
AUDIO INPUT SELECT
VIDEO LINK
A
B
LINE
VIDEO INPUT SELECT
LINE A
1
2
3
4
BACK COLOUR
EFFECT
LINE B
AUTO
FAST
SLOW
AUTO MODE
CUT
START
VIDEO
MONITOR SELECT
AUDIO
PROCESS OUT
SELECT A
SELECT B
EDIT MONITOR
EXT KEY

**6** To put the SEG in the OPERATION mode, **press the BYPASS button** which is lit on the control unit. The BYPASS button goes out and some other buttons will be lit instead. The BYPASS lamp on the main unit goes out and the OPERATION lamp on the main unit lights up in green.

**In the OPERATION mode**

- All functions available on the control unit are activated and you can start to use the SEG.
- The fan is rotating.

**When the digital SEG is in the OPERATION mode**

- To put the digital SEG back in the BYPASS mode, press the BYPASS button on the control unit.
- To put the digital SEG back in the STANDBY mode, press the POWER switch on the control unit.

**To stop using the digital SEG and release the power completely**

- Depress the POWER switch on the main unit.

The table below summarizes the power-on procedure.
To cut off the power supplied to the digital SEG completely, press the POWER switch on the main unit.

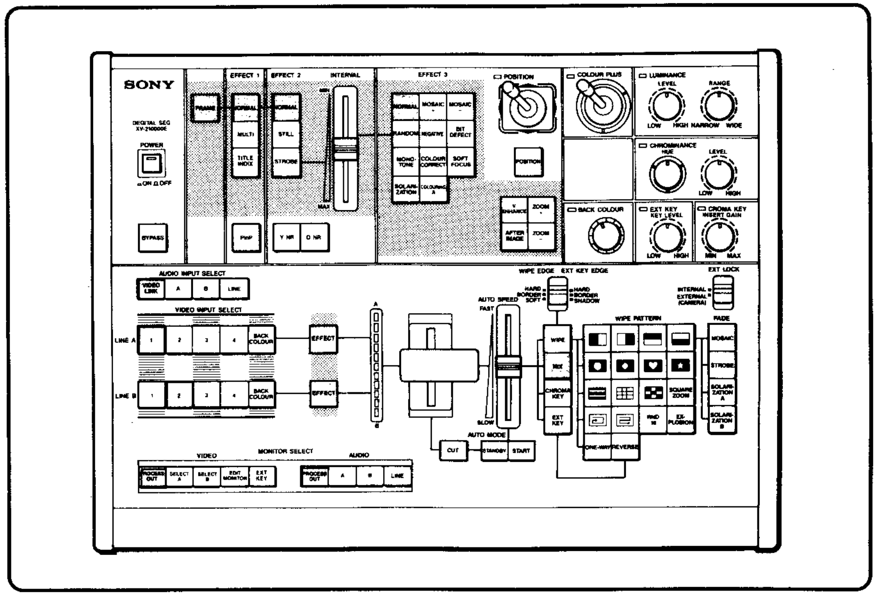
| Step | Pressed switch | Mode | Purpose |
|---|---|---|---|
| 1 | Main-power switch | STANDBY | To set the memory in the digital SEG to the standby mode |
| 2 | Control-power switch | BYPASS | To check the input source signals |
| 3 | BYPASS button | OPERATION | To start to use the digital SEG |

**Note**

The last selection of the buttons in the VIDEO INPUT SELECT section will remain unchanged until you switch off the main unit. If you switch the SEG back in the OPERATION mode from the BYPASS or STANDBY mode, the selections previously made with those buttons will be resumed.

## Checking the initial settings in the operation mode

The illustration below shows the initial setting condition when the unit is first put in the OPERATION mode.


SONY
DIGITAL SEG
XV-Z10000E
POWER
ON OFF
BYPASS
FRAME
EFFECT 1
NORMAL
MULTI
TITLE INDIX
PinP
EFFECT 2
NORMAL
STILL
STROBE
Y NR
D NR
INTERVAL
MIN
MAX
EFFECT 3
NORMAL
MOSAIC +
MOSAIC −
RANDOM
NEGATIVE
BIT DEFECT
MONO-TONE
COLOUR CORRECT
SOFT FOCUS
SOLARI-ZATION
COLOURING A
POSITION
V ENHANCE
ZOOM +
AFTER IMAGE
ZOOM −
COLOUR PLUS
LUMINANCE
LEVEL
RANGE
LOW
HIGH
NARROW
WIDE
CHROMINANCE
HUE
LEVEL
LOW
HIGH
BACK COLOUR
EXT KEY
KEY LEVEL
LOW
HIGH
CROMA KEY
INSERT GAIN
MIN
MAX
AUDIO INPUT SELECT
VIDEO LINK
A
B
LINE
VIDEO INPUT SELECT
LINE A
LINE B
1
2
3
4
BACK COLOUR
EFFECT
A
B
AUTO SPEED
FAST
SLOW
AUTO MODE
CUT
STANDBY
START
WIPE EDGE
EXT KEY EDGE
HARD
BORDER
SOFT
HARD
BORDER
SHADOW
EXT LOCK
INTERNAL
EXTERNAL (CAMERA)
WIPE
MIX
CHROMA KEY
EXT KEY
WIPE PATTERN
SQUARE ZOOM
WIND M
EX-PLOSION
ONE-WAY
REVERSE
FADE
MOSAIC
STROBE
SOLARI-ZATION A
SOLARI-ZATION B
VIDEO
MONITOR SELECT
AUDIO
PROCESS OUT
SELECT A
SELECT B
EDIT MONITOR
EXT KEY
PROCESS OUT
A
B
LINE

**Note on the light or blinking of each function button**

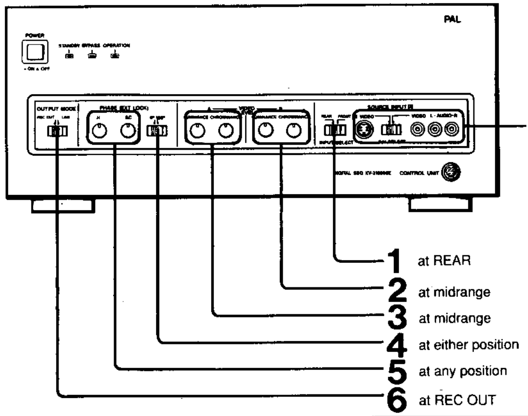
The light or blinking of each button will indicate that the function of the button is activated.
In the following sections, when the buttons are pressed and lit (or blinking), they are reffered to as being ON. When they are not lit, they are OFF.

ON: When the button is lit, its function is activated.
OFF: When the button is not lit, its function is deactivated.

## Setting the switches and controls for starting operation

For performing a simple operation, set the switches and selectors as illustrated.

**On the main unit** To be sure of all the settings, check the settings in numerical (1 through 6) order.


PAL
POWER
STANDBY BYPASS OPERATION
OUTPUT MODE
PHASE (EXT LOCK)
SOURCE INPUT IN
INPUT SELECT
CONTROL UNIT

If you are going to use the SOURCE IN-4 input jacks at the front panel, see the notes on use with the SOURCE IN-4 jack groups on page 17.

**1** at REAR

**2** at midrange

**3** at midrange

**4** at either position

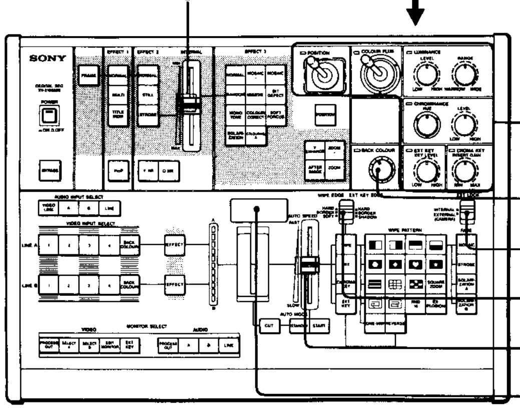
**5** at any position

**6** at REC OUT

**On the control unit** To be sure of all the settings, check the settings in numerical (1 through 8) order.

**1** at about midrange

**2** not at DEMO


SONY
POWER
VIDEO INPUT SELECT
AUDIO INPUT SELECT
LINE A
LINE B
MONITOR SELECT
VIDEO
AUDIO

**3** at midrange

**4** at the desired position for the color you prefer

**5** at INTERNAL

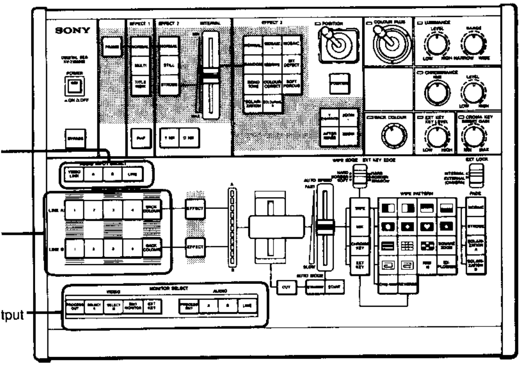
**6** at HARD

**7** at midrange

**8** at the A side

## Using the Buttons for Signal Source Selection

There are three SELECT sections for the signal source selection as listed. The illustration below shows the SELECT sections located on the control unit.



**2** AUDIO INPUT SELECT section

**1** VIDEO INPUT SELECT section

**3** MONITOR SELECT (monitor output selection) section

| | |
|---|---|
| **1 VIDEO INPUT SELECT section** | For selecting video input(s) to be processed and output as the LINE-A/LINE-B pictures. |
| **2 AUDIO INPUT SELECT section** | For selecting audio input(s) to be processed and output as the LINE-A/LINE-B sounds. |
| **3 MONITOR SELECT section** | For selecting video and audio inputs to be output at the MONITOR OUT jacks. The picture and sound can be selected and monitored during editing. |

To view the picture selected by using the buttons for signal source selection, see the outputting and recording the LINE-A picture and the LINE-B picture section on page 30.

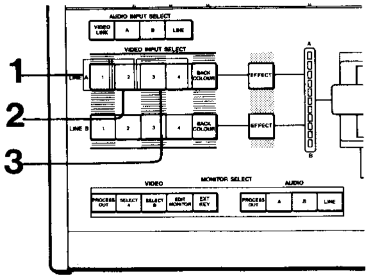
## Selecting the video input(s) to be processed and output

These buttons are to be pressed for selecting the video source(s) to be output at the following jacks.

- PROCESSED OUT jacks
- MONITOR OUT jacks
- SELECT OUT jacks
- F S OUT jacks

The signals selected with the lit or blinking buttons are output at those output jacks.

### To select the LINE-A picture

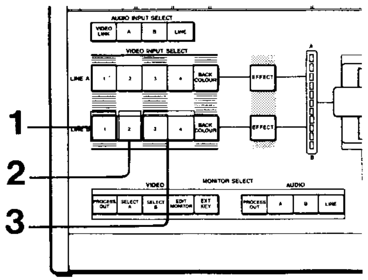

1
2
3
AUDIO INPUT SELECT
VIDEO LINK
A
B
LINE
VIDEO INPUT SELECT
LINE A
LINE B
BACK COLOUR
EFFECT
VIDEO
MONITOR SELECT
AUDIO
PROCESS OUT
SELECT A
SELECT B
EDIT MONITOR
EXT KEY

**1** To select the signal input at the SOURCE IN-1 jack as the LINE-A picture, press the LINE-A-1 button so that it blinks or lights up.

**2** To select the signal input at the SOURCE IN-2 jack as the LINE-A picture, press the LINE-A-2 button so that it blinks or lights up.

**3** To select the signal input at the SOURCE IN-3 or SOURCE IN-4 jack as the LINE-A picture in the same manner, press the appropriate button.

### To select the LINE-B picture

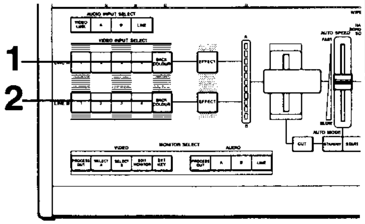

1
2
3
AUDIO INPUT SELECT
VIDEO LINK
A
B
LINE
VIDEO INPUT SELECT
LINE A
BACK COLOUR
EFFECT
VIDEO
MONITOR SELECT
AUDIO
PROCESS OUT
SELECT A
SELECT B
EDIT MONITOR
EXT KEY

**1** To select the signal input at the SOURCE IN-1 jack as the LINE-B picture, press the LINE-B-1 button so that it blinks or lights up.

**2** To select the signal input at the SOURCE IN-2 jack as the LINE-B picture, press the LINE-B-2 button so that it blinks or lights up.

**3** To select the signal input at the SOURCE IN-3 or SOURCE IN-4 jack as the LINE-B picture in the same manner, press the appropriate button.

### To output a background colour (A background colour can be output instead of the LINE-A or LINE-B picture.)


1
2
AUDIO INPUT SELECT
VIDEO INPUT SELECT
BACK COLOUR
EFFECT
AUTO SPEED
AUTO MODE
VIDEO
MONITOR SELECT
AUDIO

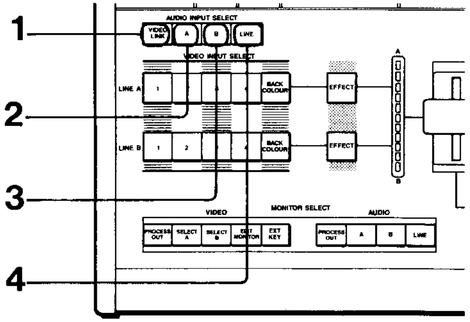
**1** To output a background colour in lieu of the LINE-A picture, press the LINE-A-BACK COLOUR button so that it lights up or blinks.

**2** To output a background colour in lieu of the LINE-B picture, press the LINE-B-BACK COLOUR button so that it lights up or blinks.

- You can choose the desired background colour with the BACK COLOUR control.
- The background colour is not output at the SELECT OUT jacks.
- To stop outputting the background colour, press the lit or blinking BACK COLOUR button to turn it off.

## Selecting the audio input(s) to be processed and output

These buttons are used to select the audio signal(s) to be output from the PROCESSED OUT jacks.


1
2
3
4
AUDIO INPUT SELECT
VIDEO LINK
A
B
LINE
VIDEO INPUT SELECT
LINE A
LINE B
BACK COLOUR
EFFECT
VIDEO
MONITOR SELECT
AUDIO
PROCESS OUT
SELECT A
SELECT B
EDIT MONITOR
EXT KEY

**1** To output audio signal(s) linked in the LINE-A and LINE-B pictures output from the SEG, press and light up the VIDEO LINK button. The sound will be switched according to the change in speed of video wiping or mixing.

When the background colour is output instead of the LINE-A (or LINE-B) picture, the audio signal corresponding to the lit button in the same LINE is output.

**2** To output the audio signal you have selected with the LINE-A button in the VIDEO INPUT SELECT section, press and light up the A button.

**3** To output the audio signal you have selected with the LINE-B button in the VIDEO INPUT SELECT section, press and light up the B button.

**4** To output the audio signal that enters the SEG at the AUX IN jacks, press and light up the LINE button.

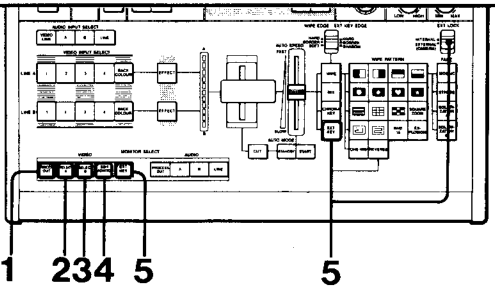
# Selecting the video and audio inputs to be monitored

There are two sections as follows:

| | |
|---|---|
| **MONITOR SELECT VIDEO section** | The buttons in this section are used to select the video signal to be monitored. |
| **MONITOR SELECT AUDIO section** | The buttons in this section are used to select the audio signal to be monitored. |

## Using the buttons in the MONITOR SELECT VIDEO section

These buttons are used to select the video signal to be output from the MONITOR OUT jacks.

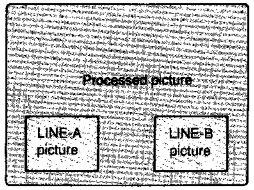

AUDIO INPUT SELECT
VIDEO INPUT SELECT
LINE A
LINE B
BACK COLOUR
EFFECT
WIPE EDGE
EXT KEY EDGE
EXT LOCK
AUTO SPEED
WIPE PATTERN
AUTO MODE
CUT
VIDEO
MONITOR SELECT
AUDIO
1
234
5
5

**1** To monitor the processed picture, press and light up the PROCESS OUT button.

**2** To monitor the LINE-A picture, press and light up the SELECT A button.

**3** To monitor the LINE-B picture, press and light up the SELECT B button.

Split screen when the EDIT MONITOR button is pressed


Processed picture
LINE-A picture
LINE-B picture

**4** To monitor the processed picture with the LINE-A and LINE-B pictures inserted in the main-screen, press and light up the EDIT MONITOR button. The LINE-A picture will be displayed at the lower left corner and the LINE-B picture at the lower right corner.
The screen that displays the processed picture is called the main screen, and the ones that display the LINE-A/B pictures are called the sub-screens. The sub-screens cannot display the background colour.

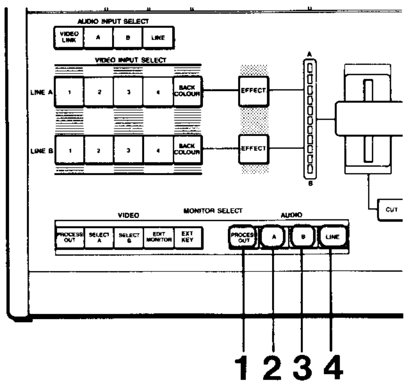
**5** To monitor the picture that enters the SEG at the EXT IN jack:

- press and light up the EXT KEY button of the MONITOR SELECT section.
- press and light up the EXT KEY button of the special effect section, or set the EXT LOCK switch to EXTERNAL.

The picture whose brightness level is simplified into two levels will be displayed.

## Using the buttons in the MONITOR SELECT AUDIO section

These buttons are used to select the audio signal to be output from the MONITOR OUT jacks.


AUDIO INPUT SELECT
VIDEO LINK
A
B
LINE
VIDEO INPUT SELECT
LINE A
LINE B
1
2
3
4
BACK COLOUR
EFFECT
A
B
CUT
VIDEO
MONITOR SELECT
AUDIO
PROCESS OUT
SELECT A
SELECT B
EDIT MONITOR
EXT KEY
PROCESS OUT
A
B
LINE
1 2 3 4

**1** To monitor the audio output selected with the AUDIO INPUT SELECT buttons, press and light up the PROCESS OUT button.

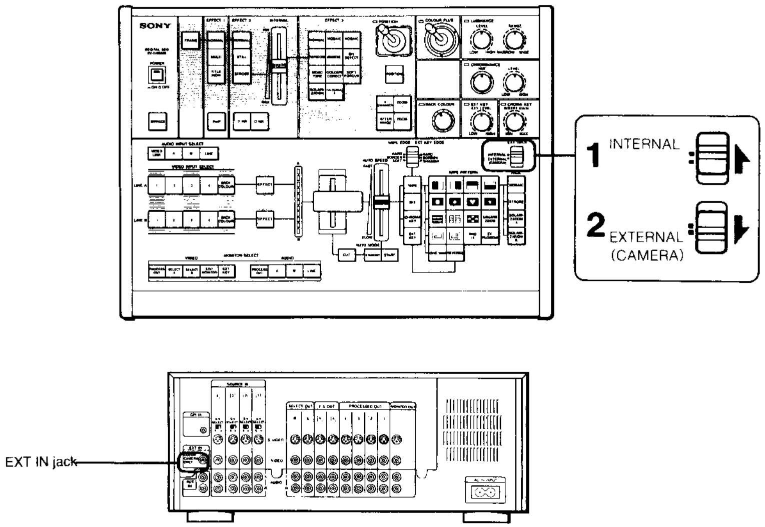
**2** To monitor the LINE-A audio, press and light up the A button.

**3** To monitor the LINE-B audio, press and light up the B button.

**4** To monitor the audio that enters the SEG at the AUX IN jacks, press and light up the LINE button.

There are two sync signals with which the SEG's output can be synchronized.
They are:

| | |
|---|---|
| **1 INTERNAL sync** | Internally generated sync signal |
| **2 EXTERNAL sync** | Externally supplied sync signal |



**1** To phase lock the sync in the video output signal to the INTERNAL sync, set the EXT LOCK selector to the INTERNAL position.

**2** To phase lock the sync of the SEG to the EXTERNAL sync, set the EXT LOCK selector to the EXTERNAL (CAMERA) position and supply the composite video signal (this signal will be the sync reference) to the SEG at the EXT IN connector from a colour video camera.

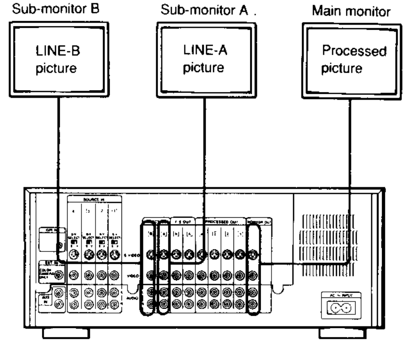
**Notes**

- When you set the EXT LOCK selector to the EXTERNAL (CAMERA) position, be sure to supply a normal video signal or turn off the equipment connected to the EXT IN connector. Otherwise, noise may be supplied to the EXT IN connector and the picture may not be stable.
- The time base of the signal used for the external sync lock must be reasonably stable. Do not supply the signal from a VCR or disc player because it uses a moving mechanism to reproduce the picture. Feed the signal from a colour video camera or a sync generator only.
- To monitor the signal supplied to the EXT IN connector when setting the EXT LOCK selector to the EXTERNAL position, press and light up the EXT KEY button in the MONITOR SELECT VIDEO section. Note that the picture is not normal and is displayed without colour because this is only to check that the signal is input.

---

**Composite video signal**
The complete video signal consisting of image, blanking, and synchronization.

# Outputting and recording the LINE-A picture and the LINE-B picture

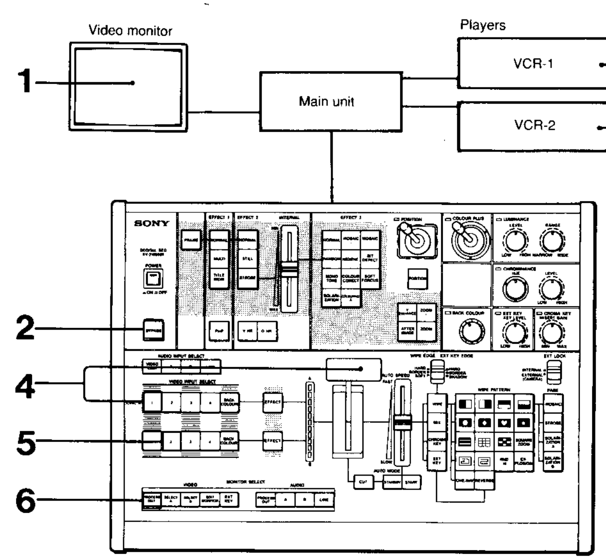
| | |
|---|---|
| **To record the processed picture:** | Hook up a recorder to the digital SEG using the PROCESSED OUT-3 or PROCESSED OUT-4 jacks. |
| **To monitor the processed picture:** | **If you have only one video monitor**<br>Hook up the video monitor to the digital SEG using the MONITOR OUT jacks. To monitor the processed picture with the LINE-A and LINE-B picture frames inserted in the screen, press and light up the EDIT MONITOR button.<br>**If you have three video monitors**<br>Hook up the main-video monitor to the SEG at the MONITOR OUT jacks and press and light up the PROCESS OUT button in the MONITOR SELECT VIDEO section.<br>To monitor the LINE-A picture, connect one sub-monitor to the SELECT OUT-A jacks.<br>To monitor the LINE-B picture, connect the other sub-monitor to the SELECT OUT-B jacks.<br><br> Sub-monitor B<br>Sub-monitor A<br>Main monitor<br>LINE-B picture<br>LINE-A picture<br>Processed picture |

**Note**

The buttons in the MONITOR SELECT section are effective only for the output from the MONITOR OUT jacks. The SEG always outputs the LINE-A video and audio signals at the SELECT OUT-A jacks and the LINE-B video and audio signals at the SELECT OUT-B jacks.

To follow the instructions described in the subsections hereafter, first go through the procedure below to be sure you understand how to display the LINE-A and LINE-B pictures.

Make sure that the MIX button is lit and none of the WIPE, CHROMA KEY and EXT KEY buttons are lit.



**1** Switch on the video monitor hooked up to the digital SEG.

**2** To put the SEG in the initial setting conditions of the OPERATION mode, press and extinguish the BYPASS button.

**3** Play back the players connected to the SOURCE IN-1 and SOURCE IN-2 jacks.

**4** To view the incoming video signal that enters the SEG at the SOURCE IN-1 jack as the LINE-A picture, make sure that the LINE-A-1 button is blinking and the BACK COLOUR-A button is OFF. Be sure to set the mixing lever to the A side.

- If another LINE-A button (2, 3 or 4) is blinking, press the LINE-A-1 button so that it blinks.
- If the BACK COLOUR-A button is blinking, press the BACK COLOUR-A button to turn it OFF.

**5** To view the incoming video signal that enters the SEG at the SOURCE IN-2 jack as the LINE-B picture, make sure that the LINE-B-2 button is ON.

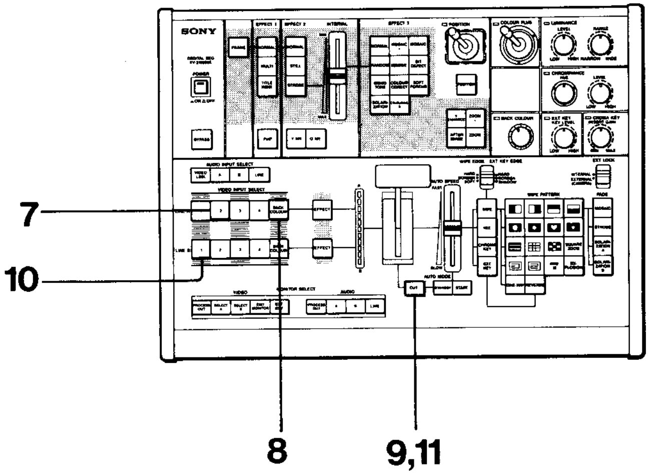
- If another LINE-B button (1, 3 or 4) is ON, press the LINE-B-2 button so that it turns to ON.
- If the BACK COLOUR-B button is ON or blinking, press the BACK COLOUR-B button to turn it OFF.

**If you are using only one player**

Connect the output of the player to the SOURCE IN-1 jack, and press and light up the LINE-B-BACK COLOUR button so that a background colour is output instead of the LINE-B picture.

**6** To monitor the outgoing processed picture, make sure that the PROCESS OUT button in the MONITOR SELECT VIDEO section is lit.

- If it is not, press and light up the PROCESS OUT button.



**7** To monitor the signal input at the SOURCE IN-2 jack as the LINE-A picture, press the LINE-A-2 button so that it blinks. The LINE-A-1 button will go out.

**If you are using only one player**

Since no signal is input to the SOURCE IN-2 jack, no picture will be displayed on the video monitor.

**8** To output a background colour instead of the LINE-A picture, press the LINE-A-BACK COLOUR button so that it blinks. In this case, the LINE-A-2 button remains blinking and the background colour will be output.

- The background colour is not output from the SELECT OUT jacks, as these only output the signals selected with the LINE-A and LINE-B buttons. If you do not need the background colour to be output, press the BACK COLOUR button so that it goes out.

**9** To select the LINE-B picture for the outgoing processed picture, press the CUT button next to the mixing lever. The position lamp will light at the B side. The previously lit LINE-B-2 button now blinks and the previously blinking LINE-A-2 button is now lit. In this condition, the signal input at the SOURCE IN-2 jack is output as the LINE-B picture.

**10** To output the signal entering the SEG at the SOURCE IN-1 jack as the LINE-B picture, press the LINE-B-1 button. The LINE-B-2 button will go out and the LINE-B-1 button will blink.

**11** To output the LINE-A picture, press the CUT button again.
The position lamp next to the mixing lever will light at the A side.

## Summary of how to use the buttons in the VIDEO INPUT SELECT section

- The signal selected with the blinking button is output at the PROCESSED OUT jacks. When two signals are selected and processed together, both the LINE-A and LINE-B buttons will blink.
- The signals selected with the lit or blinking button are output at the SELECT OUT jacks.
- The digital SEG processes only two video signals at the same time; therefore, you cannot light up or make blink more than two buttons at the same time. You can light up or make blink the BACK COLOUR buttons even when two other buttons are lit or blinking.
- The function of the BACK COLOUR buttons has priority over the function of the LINE-A/LINE-B buttons. When a BACK COLOUR button lights or blinks, a background colour will be output even though the LINE-A/LINE-B button lights or blinks. You can choose the desired background colour with the BACK COLOUR control.
- To make the BACK COLOUR button go out, press the lit or blinking BACK COLOUR button.
- When the background colour is output instead of the LINE-A (or LINE-B) picture, the audio signal corresponding to the lit button in the same LINE is output.

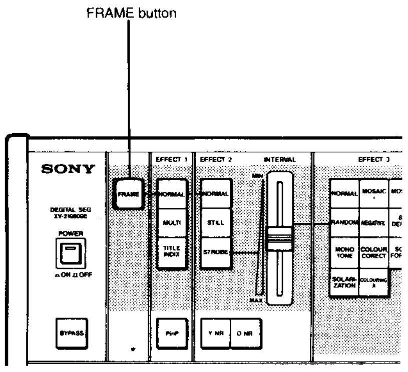
# Using the Buttons and Controls for Multiple Effects

## Selecting the frame/field video to be output

When a picture moving at high speed is frozen with a particular effect, it may become a double image if the FRAME button is lit.
To display a clear image, press the FRAME button so that its light goes out.

### FRAME button

The digital SEG outputs either frame video or field video as you select with the FRAME button.
Selection is made as follows:



**ON:** frame video
The picture is fine but it may become double image when frozen.
**OFF:** field video
The picture is rather rough in vertical direction but it is always clear when frozen.

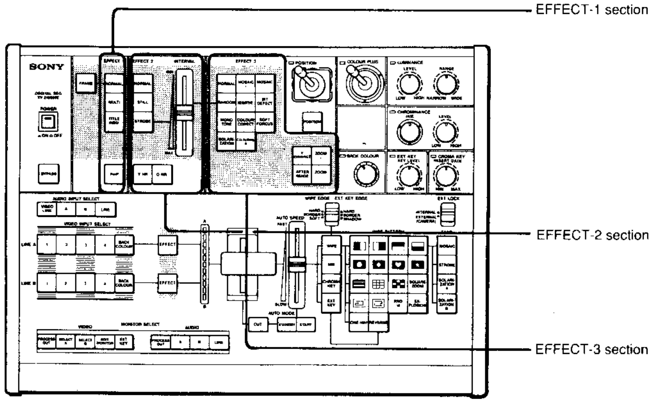
This button lights up automatically whenever the digital SEG goes into the OPERATION mode from the BYPASS mode, and the SEG outputs the frame video. This button goes out and the SEG outputs field video when you press certain button(s) on the control unit for selecting particular effects mode. In either case, you can select the opposite by pressing the FRAME button.

**What is frame or field video?**
See the Technical Information section in Chapter 3.

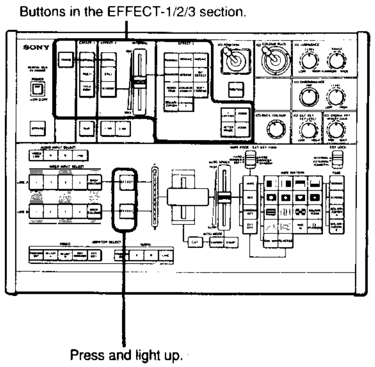
# Notes on use with buttons in the EFFECT sections

There are three EFFECT sections as shown below.

The effects you can create using the buttons in the EFFECT-1/2/3 sections are referred to as multiple effects because you may use two or more buttons at the same time.



## To activate the buttons in the EFFECT-1/2/3 sections, do as follows



To create the effects on the LINE-A picture, press and light up the EFFECT button on the right of the LINE-A buttons.

To create the effects on the LINE-B picture, press and light up the EFFECT button on the right of the LINE-B buttons.

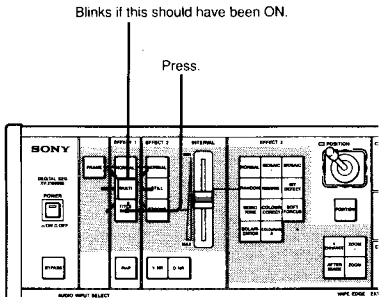
To cancel all the effects you have made with the buttons in the EFFECT sections, press and extinguish the lit EFFECT button. Note that the effects created with the PinP, Y NR and the C NR button are not cancelled.

To cancel only the effects in a particular EFFECT section, press and light up the NORMAL button, located at the top left of the corresponding EFFECT section.

**Note**

If the EFFECT button(s) is(are) not lit, any effects available using the buttons in the EFFECT-1/2/3 sections will be deactivated even if the button(s) in the EFFECT-1/2/3 sections is(are) remained ON.

### Some buttons are paired.

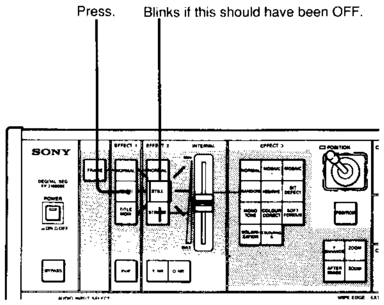


Some buttons can be lit and activated only after a particular button has been lit. If you press such buttons when their partner is OFF, the partner button will quickly blink several times to warn you. Press the blinking button and then the other one.

**Example**

If you press the TITLE INDEX button when the MULTI button is OFF, the MULTI button blinks for several seconds. To light up the TITLE INDEX button, press the MULTI button to turn it ON and then press the TITLE INDEX button.

### Some buttons are negatively paired



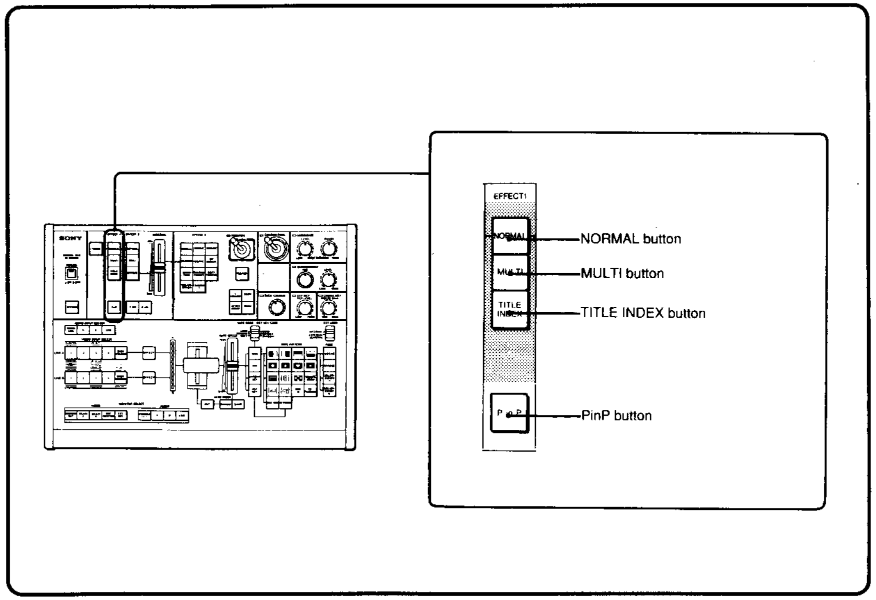
Some buttons cannot be lit nor activated while a certain other button is lit. They are negatively paired with each other. If you press one button when the other button is ON, the other one quickly blinks for several times to warn you. You must press and turn off the blinking button before you press the desired button.

**Example**

If you press the MULTI button when the STILL button in the EFFECT-2 section is ON, the STILL button blinks for several seconds. To light up the MULTI button, press the NORMAL button in the EFFECT-2 section to turn the STILL button OFF and then press the MULTI button.

## Using the buttons in the EFFECT-1 section

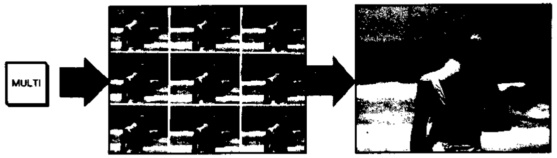
This subsection describes the functions of each button in the EFFECT-1 section.
To set current setting back to initial setting, press the NORMAL (EFFECT-1) button.



### NORMAL (EFFECT-1) button

Press and light it up to change the effects on the picture, made by pressing the buttons in the EFFECT-1 section, back to normal.

### MULTI button



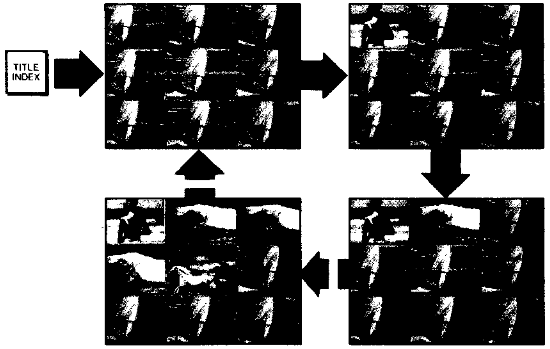
**1** To divide the screen into nine frames, press and light up the MULTI button. The NORMAL button goes out.

**2** To set the picture back to normal, press the lit MULTI button once more or press the NORMAL button.
The MULTI button goes out and the NORMAL button lights up.

**Notes**

- Frozen frames appear on the screen one after another, each of which slightly differs from the last frame. This applies, of course, only when there is movement in the picture.
- When the video signal of a video tape recorder is input, a horizontal line may appear on the picture and the portion below the line may be distorted.
- When you set the picture back to normal, the picture moves to the upper-left side a little for an instant.

## TITLE INDEX button



**1** To activate the TITLE INDEX button, press and light up the MULTI button and determine the number of frames to be displayed.

**2** To freeze the multi-frames, leaving the one (live frame) placed at the upper left corner on the screen live, press the TITLE INDEX button.

**3** To shift the live frame to the right while the preceding frame is frozen, press the lit TITLE INDEX button.

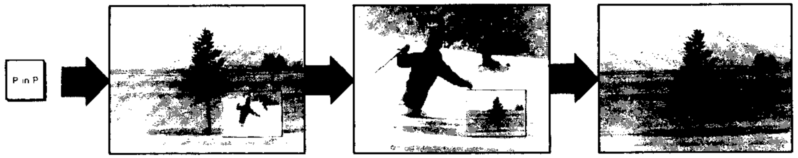
**4** To shift the live frame to the lower right corner, press the lit TITLE INDEX button again and again until it is placed there.

**5** To freeze all the frames, press the lit TITLE INDEX button once more.

**6** To make the frame placed at the top left corner live, press the TITLE INDEX button again. (You are now back at step 2.)

**7** To switch the picture back to normal, press the NORMAL button.

## PinP (picture in picture) button



**1** To insert the sub-screen at a corner in the main screen, press and light up the PinP button.
One LINE picture is displayed on the main screen and the other LINE picture on the sub-screen.

**2** To interchange the pictures on the two screens, press the lit PinP button again.

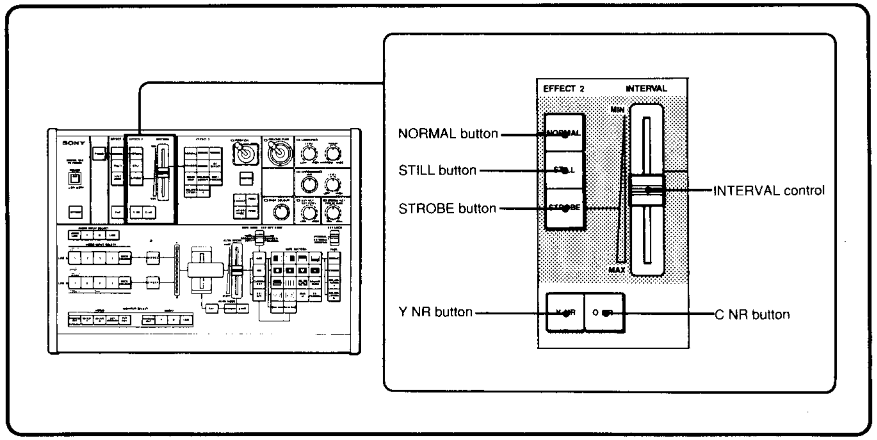
**3** To remove the sub-screen from the main screen, press the lit PinP button once more or press the NORMAL button. The PinP button goes out and the NORMAL button lights up. The LINE picture which was displayed on the main-screen in step 1 will be displayed.

**Notes**

- The FRAME button is effective only for the picture on the main screen, and it is not effective on the sub-screen picture.
- The digital SEG outputs a skipped field video on the sub-screen, so the picture displayed on the sub-screen appears to jitter a little.
- Any effects do not function on the picture displayed in the sub-screen.

## Using the buttons in the EFFECT-2 section

This subsection describes the functions of each button in the EFFECT-2 section.
To set the current setting back to the initial setting, press the NORMAL (EFFECT-2) button.



### NORMAL (EFFECT-2) button

To change the effects on the picture, made by pressing the buttons in the EFFECT-2 section, back to normal, press and light up.

### STILL button

1. To stop the picture motion at any time, press and light up the STILL button.
2. To freeze the picture currently input to the SEG and to display it, press the lit STILL button.
3. To switch the picture back to normal, press the NORMAL button.

### STROBE button

1. To flash the picture motion at specific intervals, press and light up the STROBE button.
2. To switch the picture back to normal, press the NORMAL button.

#### To control the strobe interval

Slide the INTERVAL control to the position which is appropriate.

### Y NR button

1. To select the signal displayed on the screen, turn the mixing lever down to the A or B position.
2. To reduce the Y (luminance) signal noise of the input at the SOURCE IN-1 jack, press LINE-A-1 or LINE-B-1 button so that it blinks, and press the Y NR button.
3. To cancel this effect, select the video input at the SOURCE IN-1 jack and press the lit Y NR button.
4. To reduce the Y signal noise of the input at the SOURCE IN-2 or SOURCE IN-3 or SOURCE IN-4 jack in the same manner, press the corresponding button and the Y NR button.

### C NR button

1. To select the signal displayed on the screen, turn the mixing lever down to the A or B position.
2. To reduce the C (chroma) signal noise of the input at the SOURCE IN-1 jack, press LINE-A-1 or LINE-B-1 button so that it blinks, and press the C NR button.
3. To cancel this effect, select the video input at the SOURCE IN-1 jack and press the lit C NR button.
4. To reduce the C signal noise of the input at the SOURCE IN-2 or SOURCE IN-3 or SOURCE IN-4 jack in the same manner, press the corresponding button and the C NR button.

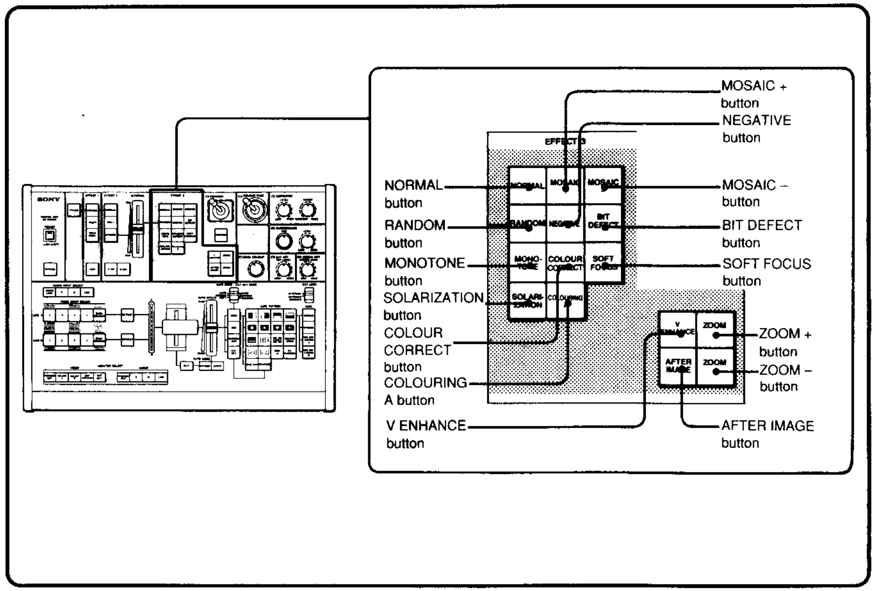
### INTERVAL control

To control the interval for displaying pictures, slide the INTERVAL control to the appropriate position. The INTERVAL control is effective for the effects made by the following buttons.

- STROBE
- RANDOM (This button is in the EFFECT-3 section.)

## Using the buttons in the EFFECT-3 section

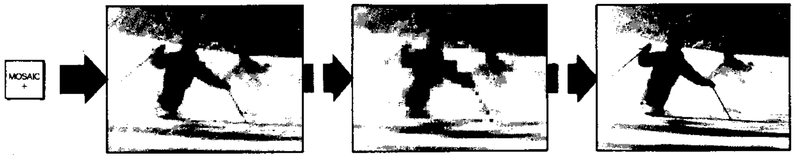
This subsection describes the function of each button in the EFFECT-3 section.
To set the current setting you have made back to the initial setting, press the NORMAL (EFFECT-3) button.


EFFECT-3
NORMAL button
RANDOM button
MONOTONE button
SOLARIZATION button
COLOUR CORRECT button
COLOURING A button
V ENHANCE button
MOSAIC + button
NEGATIVE button
MOSAIC – button
BIT DEFECT button
SOFT FOCUS button
ZOOM + button
ZOOM – button
AFTER IMAGE button

### NORMAL (EFFECT-3) button

To change the effects on the picture, made by pressing the buttons in the EFFECT-3 section, back to normal, press and light up this button.

### MOSAIC + button



**1** To display a fine mosaic picture, press and light up the MOSAIC + button.

**2** To make the mosaic pieces larger, press the lit MOSAIC + button.

**3** To make the mosaic pieces even larger, press the lit MOSAIC + button again.

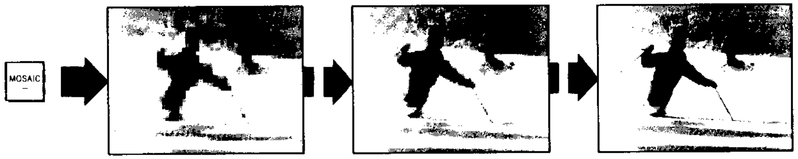
**4** To make the largest mosaic pieces, press the lit MOSAIC + button again.

**5** To set the mosaic picture back to normal, press the lit MOSAIC + button once more or press the NORMAL button. The MOSAIC + button goes out and the NORMAL button lights up.

**To go back step-by-step to the normal picture**

Press the MOSAIC – button as many times as necessary.

## MOSAIC - button



**1** To display a rough mosaic picture, press and light up the MOSAIC – button.

**2** To make the mosaic pieces smaller, press the lit MOSAIC – button.

**3** To make the mosaic pieces even smaller, press the lit MOSAIC – button again.

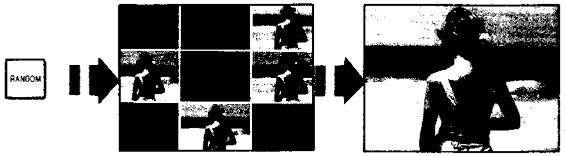
**4** To make the smallest mosaic pieces, press the lit MOSAIC – button.

**5** To set the mosaic picture back to normal, press the lit MOSAIC – button once more or press the NORMAL button. The MOSAIC – button goes out and the NORMAL button lights up.

### To go back step-by-step to the normal picture

Press the MOSAIC + button as many times as necessary.

## RANDOM button



**1** To divide the screen into nine frames and to display each frame at random one after another, press and light up the RANDOM button.

**2** To set the picture back to normal, press the lit RANDOM button or press the NORMAL button.

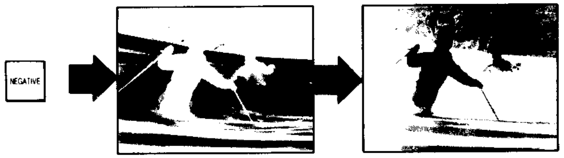
### To control the random-strobe interval

Slide the INTERVAL control to the position which is appropriate.

### Notes

- Frozen frames appear on the screen one after another in a random order, each of which slightly differs from the last frame. This applies, of course, only when there is movement in the picture.
- When the video signal of a video tape recorder is input, a horizontal line may appear on the picture and the portion below the line may be distorted.

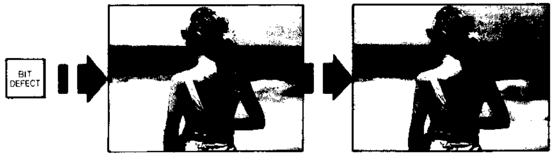
## NEGATIVE button



**1** To display a picture with black and white reversed, and to replace the colour of the picture with its complementary colour, press and light up the NEGATIVE button.

**2** To set the picture back to normal, press the lit NEGATIVE button or press the NORMAL button.

## BIT DEFECT button



**1** To break down the luminance into 16 levels, press and light up the BIT DEFECT button.

**2** To break down the luminance into 8 levels, press the lit BIT DEFECT button.

**3** To set the picture back to normal, press the lit BIT DEFECT button once more or press the NORMAL button. The BIT DEFECT button goes out and the NORMAL button lights up.

---

**BIT DEFECT**
For digitally processing the analog luminance level (continuous from low to high) in the digital SEG, the luminance is encoded into 256 levels so that it will be the same and normal as the original when decoded. The 256 levels equal 8 bits. When the processing circuit is switched to the 4- or 3-bit, luminance levels, the luminance level will be broken down into 16 or 8 levels respectively.

## MONOTONE button

**1** To display a picture with a single colour, press and light up the MONOTONE button.

**2** To set the picture back to normal, press the lit MONOTONE button or press the NORMAL button.

**To select the desired colour**

Set the COLOUR PLUS stick at the desired position. The farther it is from the centre, the deeper the colour will be. Placing it exactly at the centre removes the colour and displays a black and white picture.

## COLOUR CORRECT button

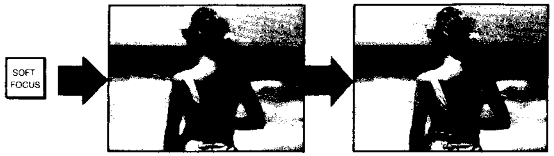
**1** To adjust the white balance of the processed picture, press and light up the COLOUR CORRECT button.

**2** To set the picture back to normal, press the lit COLOUR CORRECT button or press the NORMAL button.

**To adjust the white balance**

Set the COLOUR PLUS stick to the position which is appropriate. If placed farther from the centre, the more the correction will be. Placing it exactly at the centre does not affect the white balance of the processed picture.

## SOFT FOCUS button



**1** To produce off-focus soft images on the entire screen, press and light up the SOFT FOCUS button.

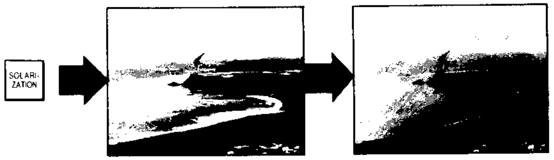
**2** To set the picture back to normal, press the lit SOFT FOCUS button or press the NORMAL button.

---

**White balance correction**

If the colour of the recorded material you have shot with your video camera is not well balanced, you can readjust the colour balance with the COLOUR CORRECT function.

## SOLARIZATION button



**1** To add a desired colour to the specified brightness level part in the picture, press and light up the SOLARIZATION button.

**2** To set the picture back to normal, press the lit SOLARIZATION button or press the NORMAL button.

**To specify the brightness level part**

Using the LUMINANCE LEVEL and RANGE controls, determine the level and range of the brightness level part for the picture area.

**To select the desired colour**

Using the COLOUR PLUS stick, determine the hue and saturation of the colour.

## COLOURING A button

**1** To add a desired colour to the specified colour part in the LINE-A picture, press and light up the COLOURING A button.

**2** To set the picture back to normal, press the lit COLOURING A button or press the NORMAL button.

**To specify the colour part**

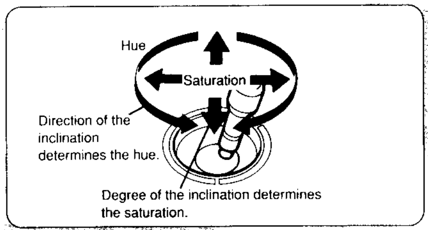
Using the CHROMINANCE HUE and LEVEL controls, determine the hue and level for the colour area.

**To select the desired colour**

Using the COLOUR PLUS stick, determine the hue and saturation of the colour.

---

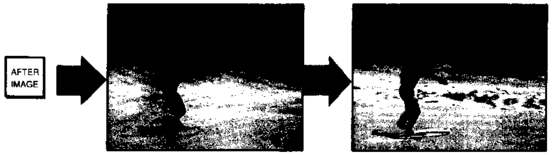
**How to use the COLOUR PLUS stick**


Hue
Saturation
Direction of the inclination determines the hue.
Degree of the inclination determines the saturation.

## V ENHANCE button

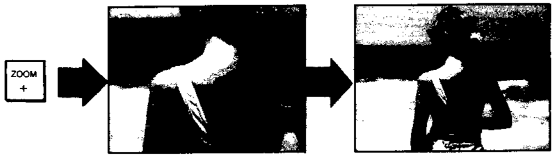
| | |
|---|---|
| **1** To make objects stand out from the background by emphasizing the top and bottom outlines of objects, press and light up the V ENHANCE button. | **2** To set the picture back to normal, press the lit V ENHANCE button or press the NORMAL (EFFECT-3) button. |

## AFTER IMAGE button



| | |
|---|---|
| **1** To leave a track of the moving object on the screen and to produce an after-image lag picture, press and light up the AFTER IMAGE button. | **2** To set the picture back to normal, press the lit AFTER IMAGE button or press the NORMAL (EFFECT-3) button. |

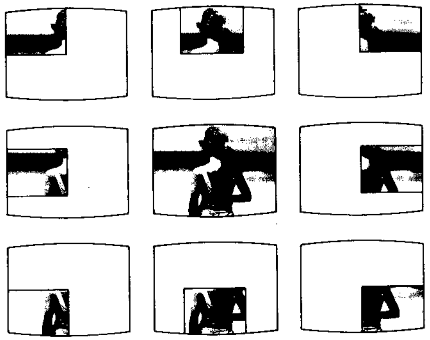
## ZOOM + (zoom in) button



| | |
|---|---|
| **1** To zoom in the centre part of the picture, press and light up the ZOOM + button. A double-size picture is displayed on the screen. | **2** To set the zoom-in picture back to normal size, press the lit ZOOM + button or press the NORMAL (EFFECT-3) button. |

### To change the particular part of the picture for zooming in

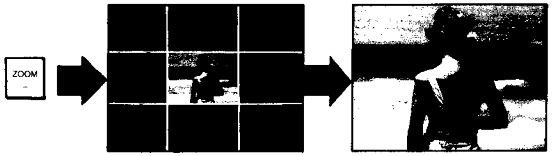
Press the POSITION button to turn it ON, and move the POSITION stick to the desired part of the picture to zoom in. You can also zoom in the following eight parts of the picture on the screen.



**Note**

- Before the desired part is zoomed in, the upper-left corner part of the normal size picture is zoomed in and displayed for about 0.03 seconds. Therefore, when you want to record a desired zoom-in picture in a recorder, put the recorder into the recording pause mode, press the ZOOM + button, and release the recording pause mode.
- As the digital SEG outputs a skipped field video for the zoom-in picture, the zoom-in picture may appear to jitter a little.

**ZOOM – (zoom out) button**



**1** To display a one-third size picture at the centre by zooming out, press and light up the ZOOM – BUTTON.

**2** To set the zoom-out picture back to normal size, press the lit ZOOM – button or press the NORMAL (EFFECT-3) button.

**To display the zoom-out picture at the desired parts of the screen**

Press the POSITION button to turn it ON. By moving the POSITION stick, you can display and shift one live zoom-out picture while the preceding zoom-out pictures are frozen at any of the nine frames into which the screen is divided.

**Note**

- As the digital SEG outputs skipped field video for the frozen zoom-out pictures, the frozen zoom-out pictures may appear to jitter a little.

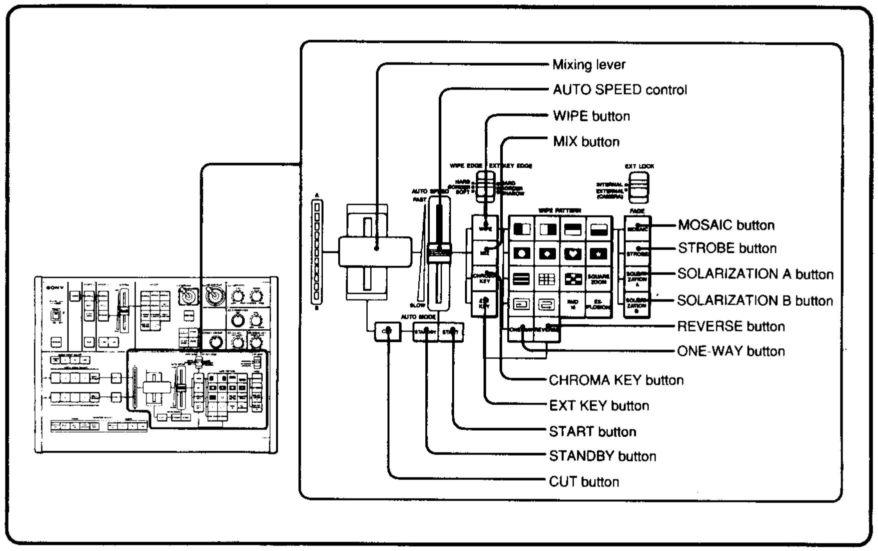
# Using the Buttons and Controls for Special Effects

For processing two video signals with the digital SEG, the following special effects are available.

To use the digital SEG with the following effects, set the SEG to the initial OPERATION mode. The MIX button will light up.
Remember that if you do not need to use the SEG with the effects listed below, always press and light up the MIX button.

| | |
|---|---|
| **1. Cutting** | switching from one picture to another |
| **2. Mixing** | fading one picture out while fading another in |
| **3. Wiping** | removing one picture while inserting another |
| **4. Chroma-keying** | replacing the keyed colour part of the LINE-A picture with the LINE-B picture |
| **5. External-keying** | replacing the keyed colour part (keyed with the externally supplied signal) of the LINE-A picture with the LINE-B picture |

To turn off the WIPE, CHROMA KEY or EXT KEY button, press the MIX button.


Mixing lever
AUTO SPEED control
WIPE button
MIX button
MOSAIC button
STROBE button
SOLARIZATION A button
SOLARIZATION B button
REVERSE button
ONE-WAY button
CHROMA KEY button
EXT KEY button
START button
STANDBY button
CUT button

## Mixing lever and START button

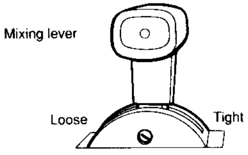
### Notes on mixing and wiping

**For manual mixing and wiping,** turn the **mixing lever** (the large handgrip type lever) as you like. To activate this lever, the STANDBY button in the AUTO MODE section must be OFF(if it is lit, press to turn it OFF). Otherwise, turning this lever makes no effect at all.

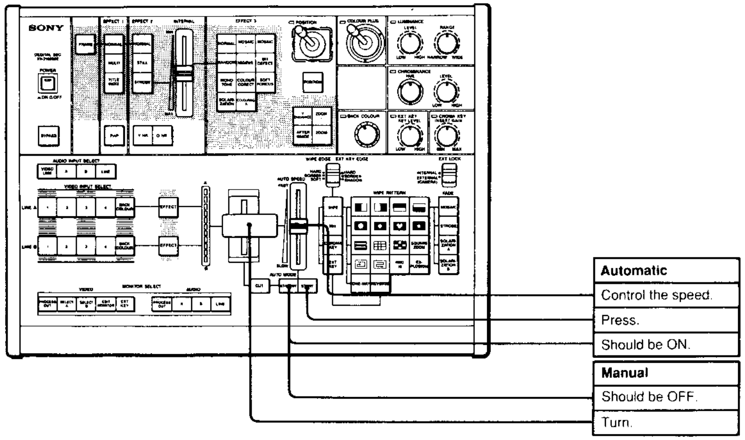
**For automatic mixing and wiping,** press the **START button** in the AUTO MODE section to turn it ON. To activate this button, be sure to press and light up the STANDBY button (if it is lit, leave it as it is) first. Otherwise, pressing the START button makes no effect at all.

### To adjust the force required to move the mixing lever

Turn the screw on the right side of the lever with a screwdriver.



Screw (on the right side)



## STANDBY button

Use to select an automatic or a manual mode for mixing and wiping. Press to turn it ON or OFF.

- **To use the mixing lever:** the STANDBY button should be OFF.
- **To use the START button:** the STANDBY button should be ON.

## AUTO SPEED control

Use always with the STANDBY button lit.
This controls the speed to vary the picture strength or to insert the picture.

This control is effective when you press the START button with the STANDBY button lit and when:
one of the following buttons are pressed and lit.

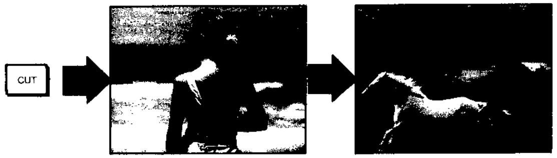
- WIPE
- MIX
- CHROMA KEY
- EXT KEY

**You can use either the mixing lever or the START button for the special effects made by using the listed buttons. However, in this manual, you will be using only the START button for all operations except for mixing to simplify the operations described in the following subsections.**

# Cutting —switching

## CUT button

To switch from the LINE-A picture to the LINE-B picture or vice versa, do as follows:



1 To activate the CUT button, press and light up the MIX, WIPE, CHROMA KEY or EXT KEY button (do not press if it is already lit).

2 To instantly replace the picture of one LINE with a picture of another LINE, press the CUT button.

3 To switch the picture back to the previously displayed LINE picture, press the CUT button again.

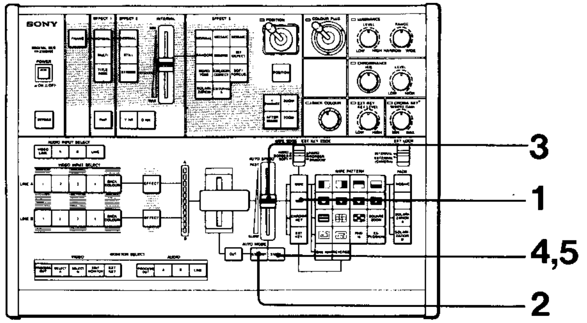
## Notes

- When you press the CUT button, the button lights for a second and the STANDBY button lights up.
- Even when you are manually controlling the pictures with the mixing lever, pressing the CUT button switches the picture(s) to the LINE-A or the LINE-B picture.
- If you switch pictures by pressing the blinking LINE-A or LINE-B buttons in the VIDEO INPUT SELECT section, the picture may be distorted. To switch one picture over the other, use the CUT button.

# Mixing

## MIX button

To crossfade (the gradual overlapping of one image over another until the former is seen no more) the pictures on the LINE-A and LINE-B, do as follows:



**1** To put two video signals together, press and light up the MIX button (do not press if it is already lit).

**2** To activate the START button, press and light up the STANDBY button (do not press if it is already lit).

**3** To set the fading speed, set the AUTO SPEED control to the position which is appropriate.

**4** To crossfade the displayed picture at the preset speed, press the START button. The START button lights while crossfading.

**5** To fade back the picture, be sure that the START button is already OFF and press the START button.

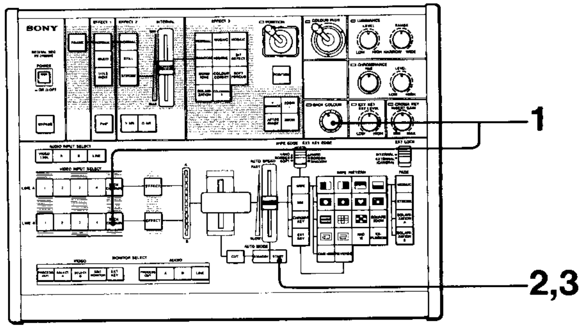
### To change the speed of the mixing

*Set the AUTO SPEED control to the appropriate position.*

**Note**

The START button does not function if it is pressed when lit.

### To only fade out or fade in the picture, not to crossfade



**1** Press and light up the BACK COLOUR button of the other LINE and set the BACK COLOUR control to dark gray. Do not light up the BACK COLOUR button of the selected LINE.

**2** Then press the START button and the picture goes to dark gray. If you have selected another colour with the BACK COLOUR control, the picture fades to that colour.

**3** To fade in the picture from the dark screen, press the START button again.

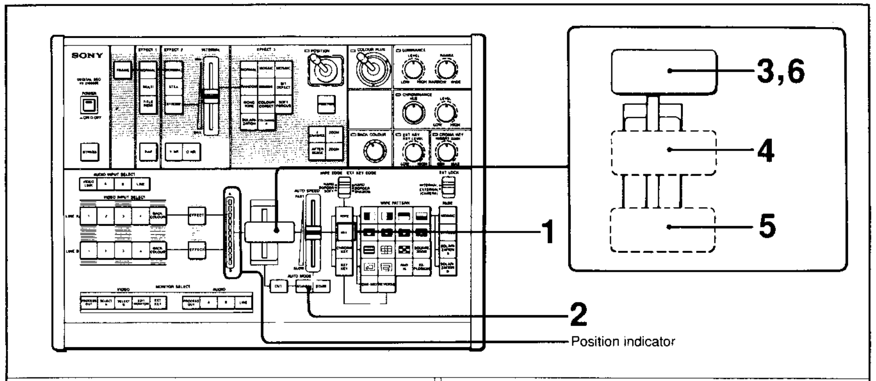
### To fade out the sound along with the picture

Before pressing the BACK COLOUR button, press and light up the LINE button of the other LINE so to select the SOURCE IN jack where no signal is supplied.

When you select the background colour to be output for one LINE, the audio signal selected with the lit LINE button of the same LINE is output.

## Mixing lever

To overlap one picture over the other, do as follows:



**1** To put two video signals together, press and light up the MIX button (do not press if it is already lit).

**2** To activate the mixing lever, press and turn OFF the STANDBY button.

**3** To display the LINE-A picture, turn the mixing lever up to the A position. See the red light on the left of the lever. It lights on the A side.

**4** To gradually overlap the LINE-B picture over the LINE-A picture, slowly turn the lever down to about the middle.

**5** To switch the overlapping of the picture to the LINE-B picture, turn the lever further down to the B position.
See the red light on the left of the lever. It lights on the B side.
The background colour can be selected instead of the LINE-B picture.

**6** To switch the picture back again, turn the mixing lever up back to the A position.

### Position (light emitting diode) indicator

This position indicator always tells you the approximate position of the lever. When you are using the START button in the AUTO MODE section, it indicates the switching of the picture.

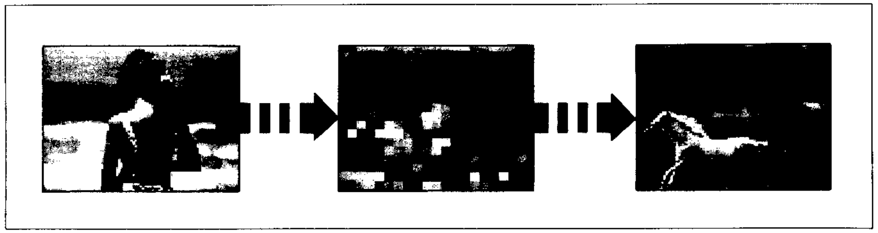
**If the red light indicating position is:**

- At the top (A), the LINE-A picture will be output.
- At the bottom (B), the LINE-B picture will be output.
- At the middle, both the LINE-A and LINE-B pictures will be output.

## FADE buttons

Using the FADE buttons (MOSAIC, STROBE, SOLARIZATION A, and SOLARIZATION B buttons) instead of the MIX button, you can crossfade and mix the pictures on the LINE-A and LINE-B in four modifying ways.

### MOSAIC button

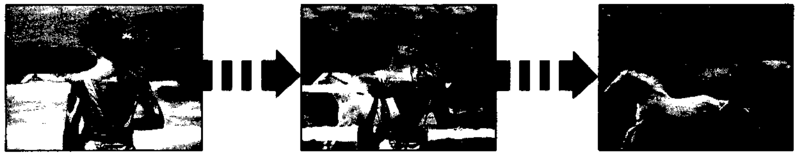


To produce mosaic effect on the pictures on the LINE-A and LINE-B while crossfading them, press and light up the MOSAIC button.

### STROBE button

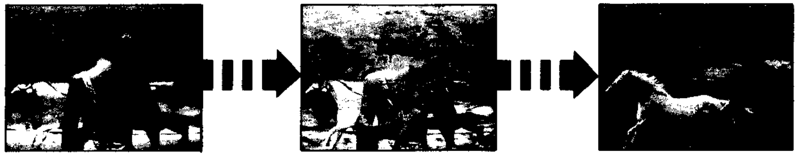
To flash picture motion on the LINE-A and LINE-B at specific intervals while crossfading, press and light up the STROBE button.

### SOLARIZATION A button



To overlap the LINE-B picture over the LINE-A picture gradually in the order of the brightness level of the LINE-A picture, press and light up the SOLARIZATION A button.

### SOLARIZATION B button



To overlap the LINE-A picture over the LINE-B picture gradually in the order of the brightness level of the LINE-B picture, press and light up the SOLARIZATION B button.

## Wiping — inserting

The digital SEG allows some wipes to be selected. The symbols printed on each button show you which button to press for the wipe pattern you are going to create.

### Notes on starting wipes with the buttons in the WIPE PATTERN section

- To use the buttons in the WIPE PATTERN section, generally press and light up the WIPE button. Exceptions are for the PinP button in the EFFECT 1 section, the MOSAIC, STROBE, SOLARIZATION A, and SOLARIZATION B button in the FADE buttons section. When one of these buttons is lit with the lit wipe pattern button(s) in a row at the top, the WIPE button is OFF.
- To start wiping, press the START button (the STANDBY button should be ON). You may use the mixing lever if the STANDBY button is OFF.
- To wipe the screen back again, press the START button again.

### Border selection for wiped frames

To select the desired border for wiped frames, use the WIPE EDGE selector.

| | | |
|---|---|---|
| **HARD:** For sharp and clear frame separation | This selection is effective on the effects made with all the pattern selection buttons in the WIPE PATTERN section. | |
| **BORDER:** For frame separation with a coloured border | To select the desired border colour, use the BACK COLOUR control. Note that you cannot select a border colour independently from the backcolour. This selection is effective on the effects made only with specific pattern selection buttons in the WIPE PATTERN section. | |
| **SOFT:** For soft and unclear frame separation | This selection is effective only on the effects made with the particular pattern selection buttons in the WIPE PATTERN section. | |

---

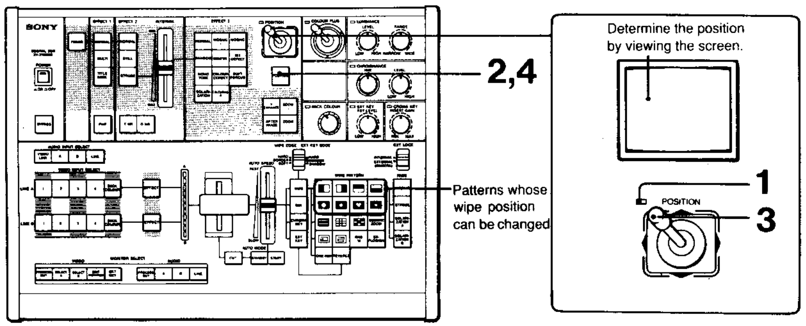
**Wipe patterns**
See the table in the Reference Tables for Wipes and Controls section in Chapter 3.

**Border selection**
See the table in the Reference Tables for Wipes and Controls section in Chapter 3.

## Wipe position setting

For the following five wipe patterns, you can set the wipe position on the screen.

1. ■ — Press and light up all four horizontal and vertical wipe pattern buttons.
2. ●
3. ◆
4. ♥
5. ★



SONY
2,4
Determine the position by viewing the screen.
1
POSITION
3
Patterns whose wipe position can be changed

**1** Select one of the above wipe patterns, and the POSITION lamp will light up in green. The POSITION stick is not activated yet.

**2** To determine a particular position on the screen for starting wipes, press and light up the POSITION button. The POSITION stick is activated.

**3** View the screen and set the POSITION stick where you want to start or end the wipe.

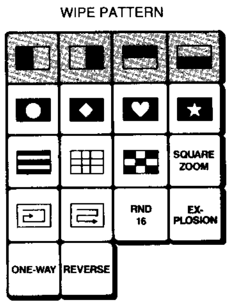
**4** To deactivate the POSITION stick, press the lit POSITION button. The wipe position will be set back to the centre of the screen.

**Note**

The lit POSITION button warns you that the function of the POSITION stick is activated. Do not turn it when in operation unless you want to use it.

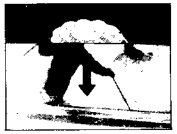
### Using the buttons in the row at the top

Press the lit undesired button to turn it OFF if two or more buttons are lit at the same time. You cannot turn OFF all the four buttons.
When the WIPE button is pressed, the button on the far left lights up.



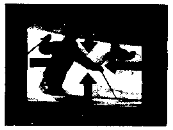
WIPE PATTERN
SQUARE ZOOM
RND 16
EX-PLOSION
ONE-WAY
REVERSE

**How to read the pictures**
The pictures show examples of wiping from the LINE-A picture to the LINE-B picture.
If you wipe from the LINE-B picture to the LINE-A picture, the wiping direction will be opposite to that shown here.
The wiping direction can also be reversed by pressing the REVERSE button.

| | |
|---|---|
| **To get a horizontal wipe from left to right:**<br>◧ | |
| **To get a horizontal wipe from right to left:**<br>◨ | |
| **To get a vertical wipe from top to bottom:**<br>⬒ |  |
| **To get a vertical wipe from bottom to top:**<br>⬓ | |

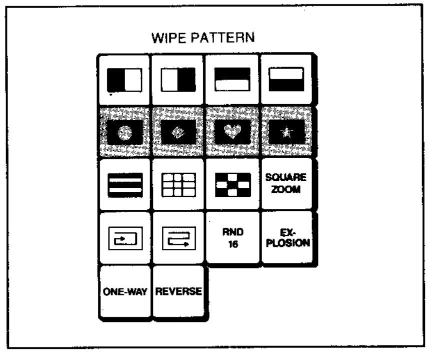
## If you press and light up two or more buttons at the same time

There are 11 selections which can be made with the four buttons in addition to the selections shown on the left page. The followings are some examples.

| | |
|---|---|
| **To get a wipe from right and bottom:**<br>◨ + ⬓ | |
| **To get a wipe from left and bottom:**<br>◧ + ⬓ | |
| **To get a wipe from right and top:**<br>◨ + ⬒ | |
| **To get a wipe from left and top:**<br>◧ + ⬒ | |
| **To get a wipe from out to centre:**<br>◧+◨+⬒+⬓ |  |

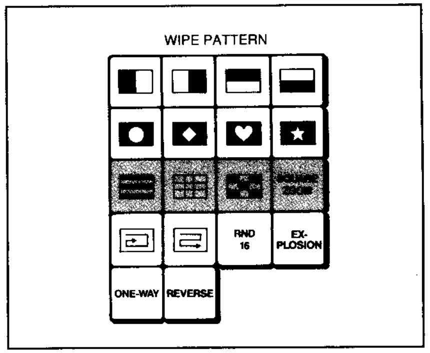
## Using the buttons in the second row from the top

To use these buttons, press and light up the WIPE button. The patterns are the same as those marked on the buttons. To cancel the effects made with the lit button, press the MIX button.


WIPE PATTERN
SQUARE ZOOM
RND 16
EX-PLOSION
ONE-WAY
REVERSE

## Using the buttons in the third row from the top

To use these buttons, press and light up the WIPE button. The patterns are the same as those marked on the buttons. To cancel the effects made with the lit button, press the MIX button.

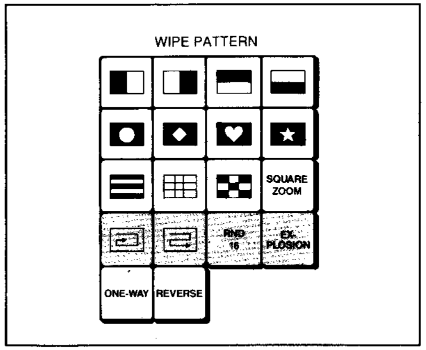

WIPE PATTERN
SQUARE ZOOM
RND 16
EX-PLOSION
ONE-WAY
REVERSE

### SQUARE ZOOM button

When pressed and lit, the screen will be wiped with checkered pictures enlarging gradually until the entire screen is filled.

### Using the buttons in the fourth row from the top

To use these buttons, press and light up the WIPE button. The patterns are the same as those marked on the buttons. To cancel the effects made with the lit button, press the MIX button.



**RND 16 button**

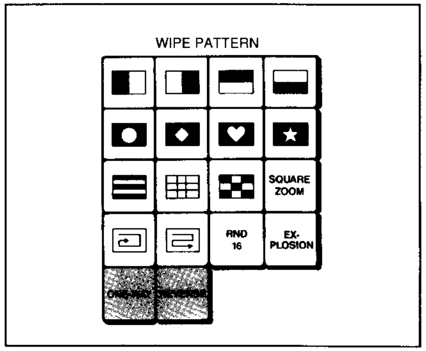
When pressed and lit, the screen will be wiped with sixteen small pictures appearing at random order until the entire screen is filled.

**EXPLOSION button**

When pressed and lit, the screen will be wiped with explosion pattern pictures appearing gradually until the entire screen is filled.

### Using the button in the row at the bottom

These buttons are effective for the patterns made with all the wipe pattern buttons in the WIPE PATTERN section.



**ONE-WAY button**

To wipe the screen only in one way, press and light up the ONE-WAY button. When this button is pressed and lit, by pressing the START button or by turning the mixing lever, the wipe is done only in one direction.

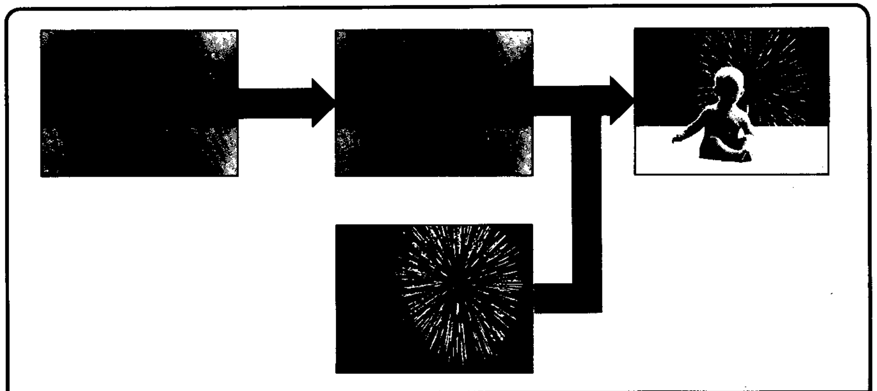
**REVERSE button**

To reverse the effect direction on the LINE-A and LINE-B pictures, press and light up the REVERSE button. When this button is pressed and lit, the currently selected wipe direction will be reversed. This button is also effective on the effects created with the SOLARIZATION A, SOLARIZATION B, CHROMA KEY and EXT KEY buttons.

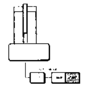
## Chroma keying — replacing using the LINE-B picture

To replace a particular colour part in the LINE-A picture with the LINE-B picture, do as follows:
Usually, a picture with a blue background (especially being shot with a video camera) is used as the LINE-A picture and scenery is used as the LINE-B picture. You can fade in or fade out the inserted LINE-B picture by using the REVERSE button or the mixing lever.

**CHROMA KEY button**



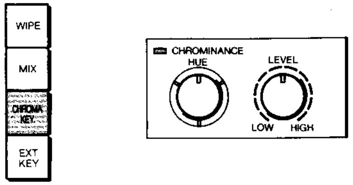
**1** Using the START button or the mixing lever, display the LINE-B picture on the screen.



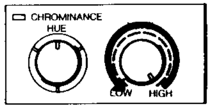
**2** To start chroma keying, press and light up the CHROMA KEY button. The CHROMINANCE lamp and the CHROMA KEY lamp will light up.

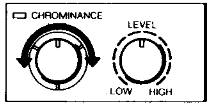
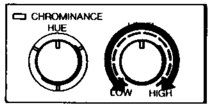
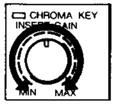
**Note**

The LINE-A picture with the LINE-B picture partially inserted will be displayed (the position indicator is still set in the B side).



**3** To clearly determine the colour to be keyed, turn the CHROMINANCE LEVEL control fully counterclockwise.



| | |
|---|---|
| **4** To select the colour part of the LINE-A picture to be replaced with the LINE-B picture, turn the CHROMINANCE HUE control while viewing the LINE-A picture displayed on the screen. |  |
| **5** To adjust the colour part to be keyed more in detail, turn the CHROMINANCE LEVEL control. |  |
| **6** To adjust the level of the LINE-B picture being inserted in the LINE-A picture, turn the INSERT GAIN control. Turning the INSERT GAIN control fully counterclockwise displays black as the LINE-B picture. |  |
| **7** To display the normal LINE-B picture, press and light up the MIX button. | |

### To reverse the fade-in and fade-out of the picture

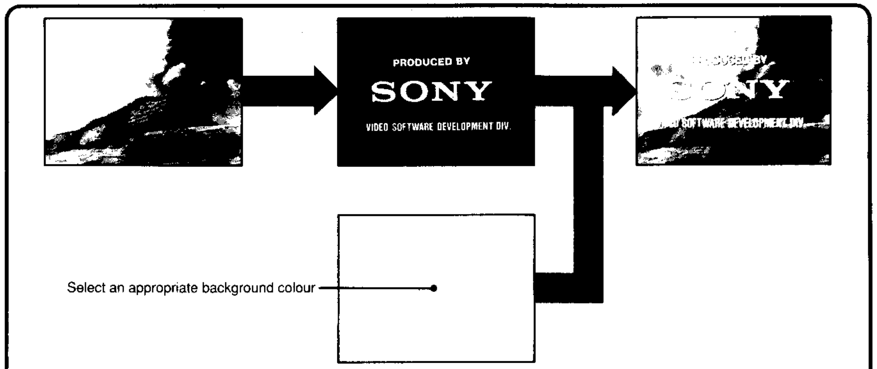
Press the REVERSE button.

## External keying — replacing using an externally supplied video signal

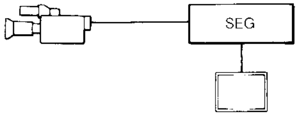
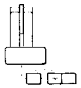
To replace a particular part, which is keyed with a level of the externally supplied video signal, in the LINE-A picture with the LINE-B picture, do as follows:

To superimpose title characters on the LINE-A picture, shoot the title with a video camera supplying that signal to the EXT IN jack, and select the background colour for the LINE-B picture.
The REVERSE button and mixing lever can be used for the fade in or fade out effect.

### EXT KEY button



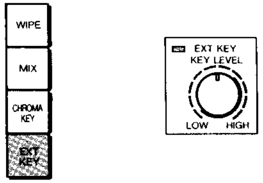
Select an appropriate background colour

| | |
|---|---|
| **1** Prior to starting external keying, supply a specified signal (a colour camera signal) to the EXT IN jack. You do not need to set the EXT LOCK selector to the EXTERNAL (CAMERA) position. It may be set either to the INTERNAL or EXTERNAL position. |  |
| **2** Using the START button or the mixing lever, display the LINE-B picture on the screen.<br>When superimposing title characters, select the background colour for the LINE-B picture. |  |

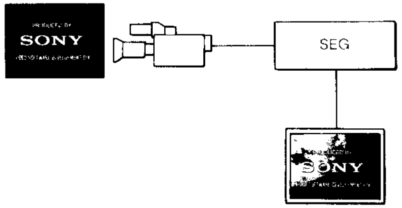
**3** To start external keying, press and light up the EXT KEY button.
The EXT KEY lamp will also light up.

**Note**

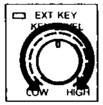
The LINE-A picture with the LINE-B picture partially inserted will be displayed (the position indicator is still in the B side).



**4** To determine the part of the LINE-A picture to be keyed with the signal supplied to the EXT IN jack, shoot the desired pattern with the video camera.
The keyed part of the LINE-A picture will be replaced with the LINE-B picture.



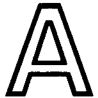
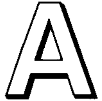
**5** To adjust the part of the LINE-A picture to be keyed, turn the KEY LEVEL control.



**6** To display the normal LINE-A picture, press and light up the MIX button.

### To add border or shadow to title edge

When you select the signal input at the SOURCE IN-1, -2, -3, or -4 jack as the LINE-A picture while outputting a background colour in lieu of LINE-B picture, you can add border or shadow to title edge.
Use the EXT KEY EDGE selector.

| | | | |
|---|---|---|---|
| **To add a border** | Set the EXT KEY EDGE selector to the BORDER position. | Black bold-faced border applied to the periphery of title characters |  |
| **To add a shadow** | Set the EXT KEY EDGE selector to the SHADOW position. | Black border applied to the right and bottom side of title characters |  |

### To reverse the LINE-A and the LINE-B pictures

Press the REVERSE button.

### To check the external keying level

Press the EXT KEY of the MONITOR SELECT section. You can monitor the black and white key signal which is a part of the picture to be keyed.

**Notes**

- For external keying, the sync signal will lock to the externally supplied signal at the EXT IN jack regardless of the selection of the EXT LOCK selector.
- When the video signal of a video tape recorder or a video disc player is input to the EXT IN jack, picture made by external keying may not be a stable one.

# Using the Frame Synchronized Video Output

## Using the digital SEG as a frame synchronizer

The SOURCE IN signals passing through the digital SEG will be stored in the built in digital frame memory once and retrieved using the internal or external sync signal; therefore, as long as you put the SEG in the OPERATION mode, the video signals output from the SEG are always frame synchronized even when they just pass through the SEG without any effects given to the video signals.

All the video signals output from the SEG at the jacks listed below are frame synchronized.

- PROCESSED OUT jacks
- F S OUT jacks
- MONITOR OUT jacks

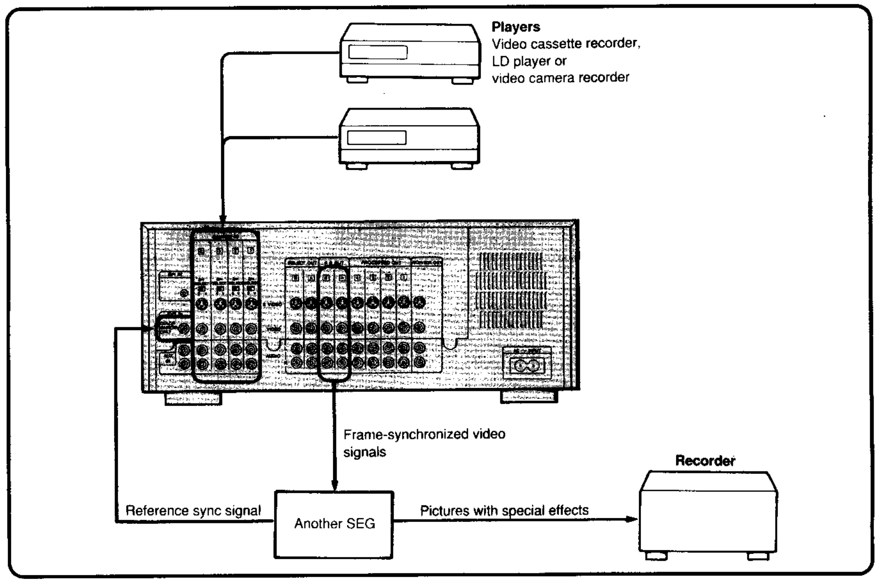
**Notes**

- The F S OUT jacks output the video signal processed with the buttons in the EFFECT section but do not output the wiped, keyed or mixed signal. Use the FS OUT jacks with the MIX button lit.
- The video signals output from the SELECT OUT jacks are not frame synchronized.
- The video signals output from the MONITOR OUT jacks are frame synchronized only when the PROCESS OUT button is lit.

### Hooking up the SEG to another effects generator

You can supply the SEG's effects output to another SEG for an additional effects production. For example, if you make effects only on the LINE-A signal with the buttons in the EFFECT sections, and then if you apply it to another SEG with the LINE-B through output, additional special effects can be created.

In general, a special effects generator requires two signals which are made synchronous with each other. For this purpose, this SEG is equipped with two F S OUT jacks; one is for the LINE-A signal and the other for the LINE-B signal. Using the outputs from these jacks, you can use another special effects generator without making sync connections. The illustration below shows how to hook up the SEG for this purpose.

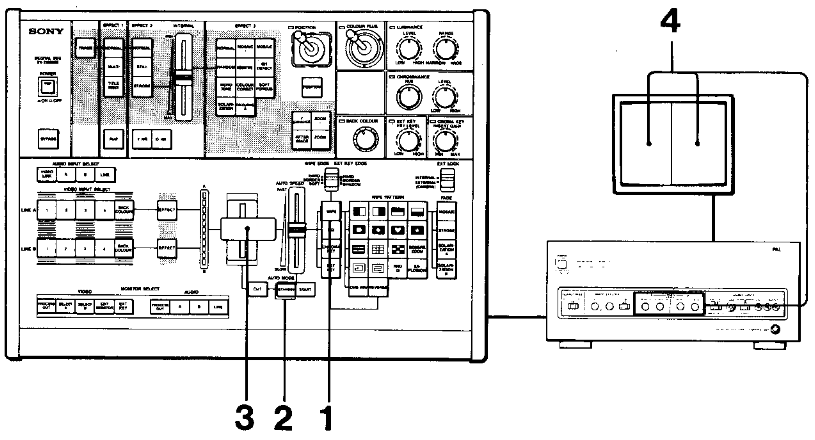


# Adjusting the Controls on the Main Unit

## Adjusting the LINE-A/B VIDEO LEVEL controls

These controls are to be used to adjust the colour balance of the LINE-A picture to that of the LINE-B picture, or vice versa.

To adjust the brightness and colour easily, perform the adjustment as follows:



**1** Press and light up the WIPE button for horizontal wipe.

**2** Press and turn OFF the STANDBY button for manual wipe.

**3** Set the mixing lever at about the centre to display the LINE-A and LINE-B pictures at the same time.

**4** View the screen for the following adjustments.

- To adjust the brightness of the LINE-A picture, turn the VIDEO LEVEL A LUMINANCE control.
- To adjust the saturation of the LINE-A picture, turn the VIDEO LEVEL A CHROMINANCE control.
- To adjust the brightness of the LINE-B picture, turn the VIDEO LEVEL B LUMINANCE control.
- To adjust the saturation of the LINE-B picture, turn the VIDEO LEVEL B CHROMINANCE control.

**Notes**

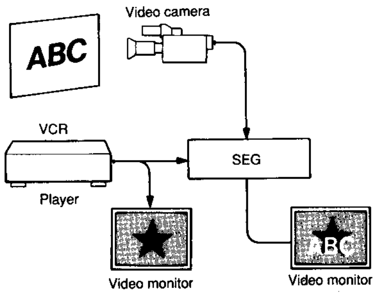
- Although colour tone of the two pictures can be made almost the same, it may not be exactly the same.
- Colour tone of the still picture or background colour cannot be adjusted with the CHROMINANCE LEVEL control.

## Adjusting the sync phase with respect to the external sync

These controls and selector are to be used to adjust the horizontal sync phase and the subcarrier phase of the SEG's video output. Generally, adjustment is not necessary. Just set the PHASE H and PHASE SC controls to the centres and the PHASE SC selector to either the 0 or 180 position.

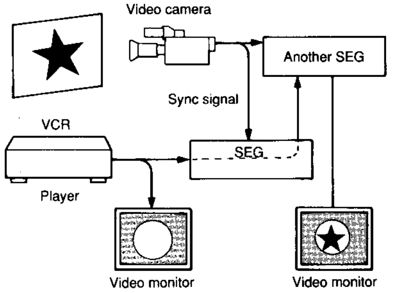
**Adjustment is needed when:**

- **Using the EXT KEY button for superimposing on the signal supplied by a video camera connected to the EXT IN jack.** In this case, using the PHASE H control, you can adjust the position of the superimposed picture a little horizontally. You do not need to use the PHASE SC control.



- **Using the video output of other video equipment with the SEG's video output in a gen-lock system.**
  The illustration on the right shows an example.

  To precisely adjust the H (horizontal) sync phase and the SC (subcarrier) phase, use an oscilloscope and a vectorscope. This manual does not intend to explain such complex adjustment because it is not required generally.
  For details on how to adjust, refer to the operating instructions for the equipment to be used together with the SEG (i.e. Sony's SEG-2550P SEG if it is to be gen-locked together with the SEG).

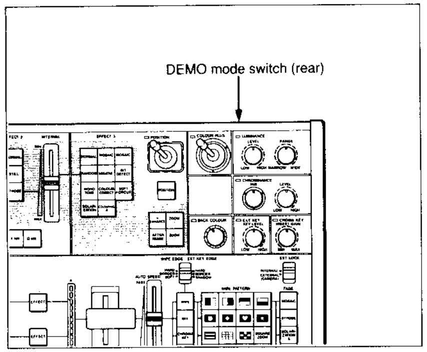


**Horizontal sync phase**
The phase of the horizontal sync signal added to the video signal to determine the horizontal picture position displayed on a monitor.
**Subcarrier phase**
The subcarrier is the phase reference of the chrominance signal. If its phase varies, the hue will change.
**Gen-lock**
See the Technical Information section in Chapter 3.

**Oscilloscope**
An instrument primarily for making visible the instantaneous voltage changes of a waveform.
**Vectorscope**
An instrument primarily for making visible and measurable the saturation and hue of a colour video signal.

# Using the DEMO (demonstration) Mode

When you set the DEMO mode switch, located on the rear of the control unit, to the DEMO position, the digital SEG will output typical effects picture one after another automatically. When you press the POWER switch on the control unit with the DEMO mode switch set to the DEMO position, the SEG will be put in the DEMO mode.



**Notes on using the SEG in the DEMO mode**

- Be sure to input video signals both to the SOURCE IN-1 and SOURCE IN-2 jacks. Otherwise, the SEG will not output a normal picture.
- The control unit is deactivated when the DEMO mode switch is set to the DEMO position. To activate the control unit, set the DEMO mode switch back to the initial position. In this case, the SEG retains the effect which was selected when the switch was turned. To set the SEG in the initial setting condition, press the BYPASS button or the POWER switch.

# Chapter 3

## Supplementary Information and Physical Description of the Mechanism

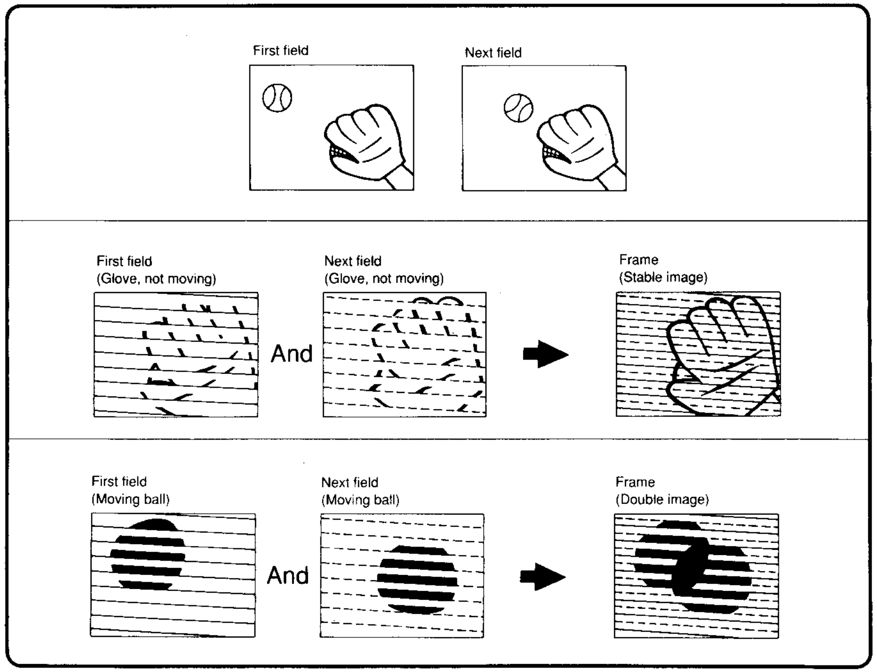
This chapter provides reference materials, which includes the following sections.

1. Technical Information .......... 76
2. Reference Tables for Wipes and Controls .......... 78
3. Overall Appearance and Purpose of the Mechanism .......... 80
4. Specifications .......... 90
5. Troubleshooting .......... 92

# Technical Information

## What are frame and field?

Generally speaking, one TV picture is made up of two rough pictures, and those two rough pictures make complete one picture. Each rough picture is called a field. On the other hand, one pair of rough pictures (two fields) is called a frame. In some respects, we can say one frame makes one complete picture. But if you see a field on a video monitor and compare its quality with a frame displayed, there is not so much difference between them except for degradated vertical resolution.
Note that if a pair of two fields (a frame) provides quick motion picture, the contents of each field may be different from each other and this will produce a double image on the screen. In this case, you can choose a field video to be output from the SEG so that the picture becomes clear and stable though the vertical resolution will become slightly worse.



## What is a frame synchronizer?

A frame synchronizer is the unit used to adjust the timing of two video signals to match each other. When a video signal passes through the frame synchronizer (i.e. the SEG), the video signal reproduced with one VCR is synchronized with the reference sync signal of the SEG. This is particularly difficult to achieve when it comes to the units having mechanically moving parts used for video reproduction (i.e. VCRs and videodisc players).
If two video signals which are not synchronous with each other are put together to be output as one video signal, there will be break-ups in the reproduced picture.

## What is gen-lock?

Gen-lock is required to superimpose two or more video signals. It means the precise matching of two or more video signals for scanning. In a gen-lock system, generally, one sync generator (for the SEG, you may use a colour video camera) supplies the reference sync signal and the sync of other equipment locks to it.

# Reference Tables for Wipes and Controls

## Wipe patterns

**The combination of wipe patterns available using the vertical and horizontal wipe buttons**

| Pattern<br>Button | ◧ | ◨ | ⬒ | ⬓ | ◫ | ◲ | ◳ | ◱ | ◰ | ⊟ | ⍗ | ⍐ | ⍈ | ⍇ | ▣ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ◧ | ○ |  |  |  | ○ | ○ | ○ |  |  |  | ○ | ○ | ○ |  | ○ |
| ◨ |  |  |  |  | ○ |  |  | ○ | ○ |  | ○ | ○ |  | ○ | ○ |
| ⬒ |  |  | ○ |  |  | ○ |  | ○ |  | ○ | ○ |  | ○ | ○ | ○ |
| ⬓ |  |  |  | ○ |  |  | ○ |  | ○ | ○ |  | ○ | ○ | ○ | ○ |

## Wipe patterns and available wipe borders

**Wipe border selection with the WIPE EDGE selector and wipe position selection with the POSITION stick**

| Wipe button<br>Selection | ◧ | ◨ | ⬒ | ⬓ | ● | ◆ | ♥ | ★ | ☰ | ▦ | ▞ | SQUARE ZOOM | ⍈ | ↝ | RND [illegible] | EX-PLOSION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HARD | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| BORDER | ○ | ○ | ○ | ○ | ○ | ○ |  |  | ○ | ○ |  |  |  |  |  |  |
| SOFT | ○ | ○ | ○ | ○ | ○ | ○ |  |  | ○ | ○ |  |  |  |  |  |  |
| POSITION | Effective only when the four vertical and horizontal wipe buttons are pressed and lit up. |  |  |  | ○ | ○ | ○ | ○ |  |  |  |  |  |  |  |  |

## Controls to be adjusted with the pressed buttons

**Controls to be adjusted for the selected special effects**

| Wipe button<br>Selection | MONO-TONE | COLOUR CORRECT | SOLARI-ZATION | COLOUR-ING | ■ | ● | ◆ | ♥ | ★ | CHROMA KEY | EXT KEY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| POSITION |  |  |  |  | ○ | ○ | ○ | ○ | ○ |  |  |
| COLOUR PLUS | ○ | ○ | ○ | ○ |  |  |  |  |  |  |  |
| LUMINANCE |  |  | ○ |  |  |  |  |  |  |  |  |
| CHROMI-NANCE |  |  |  | ○ |  |  |  |  |  | ○ |  |
| EXT KEY LEVEL |  |  |  |  |  |  |  |  |  |  | ○ |
| INSERT GAIN |  |  |  |  |  |  |  |  |  | ○ |  |

## Output signal from the SEG according to the OUTPUT MODE switch selection

**When LINE-A selects SOURCE IN-1 and LINE-B selects SOURCE IN-2, and they are put together.**

| Selection | Jack name<br>Mode | SELECT OUT |  | F S OUT |  | PROCESSED OUT |  |  |  | MONITOR OUT* |
|---|---|---|---|---|---|---|---|---|---|---|
|  |  | A | B | A | B | 1 | 2 | 3 | 4 |  |
| LINE | BYPASS | A<br>Ⓓ | — | — | — | A<br>Ⓓ | A<br>Ⓓ | A<br>Ⓓ | A<br>Ⓓ | A<br>Ⓓ |
| REC OUT | BYPASS | A<br>Ⓓ | — | — | — | — | A<br>Ⓓ | A<br>Ⓓ | A<br>Ⓓ | A<br>Ⓓ |
| LINE | OPERATION | A<br>Ⓓ | B<br>Ⓓ | A<br>Ⓢ | B<br>Ⓢ | A/B<br>Ⓢ | A/B<br>Ⓢ | A/B<br>Ⓢ | A/B<br>Ⓢ | A/B<br>Ⓢ |
| RECOUT | OPERATION | A<br>Ⓓ | B<br>Ⓓ | A<br>Ⓢ | B<br>Ⓢ | — | — | A/B<br>Ⓢ | A/B<br>Ⓢ | A/B<br>Ⓢ |

**Output signal**

A: LINE-A-1 output
B: LINE-B-2 output

—: No output
A/B: Two signals are mixed

**Signal's status**

Ⓓ : Not frame synchronized
Ⓢ : Frame synchronized

* When the PROCESS OUT button is lit

# Overall Appearance and Purpose of the Mechanism

The name and function of parts on the SEG are summarized and listed in tables in this section. Use the tables as follows according to your purpose.

| | |
|---|---|
| **When you need an explanation of a particular part** | Search for the name of the part in the tables. The parts are listed in alphabetical order. |
| **When you need to know how to use a particular part in detail** | See the page(s) listed in the reference page number column. |
| **When you want to know where the part you find in the manual is on the SEG** | See the pages 87 through 89 referring to the far right numbers listed in the tables. |

| Name of parts (A – C) | Function | Page numbers | Indexed numbers |
|---|---|---|---|
| **A (AUDIO INPUT SELECT) button** | Selects the LINE-A audio signal to be output. | 26 | 61 |
| **A (MONITOR SELECT AUDIO) button** | Selects the LINE-A audio as the output from the MONITOR OUT jacks. | 28 | 70 |
| **AFTER IMAGE button** | Leaves a track of moving picture on the screen and produces an after-image lag picture. | 49 | 48 |
| **AUTO SPEED control** | Controls the speed of the effect change with the STANDBY button switched ON. | 54 55 | 86 |
| **AUX (auxiliary) IN jacks** | For the audio signals to be selected with the LINE button in the AUDIO INPUT SELECT section. | 12 26 | 25 |
| **B (AUDIO INPUT SELECT) button** | Selects the LINE-B audio signal to be output. | 26 | 62 |
| **B (MONITOR SELECT AUDIO) button** | Selects the LINE-B audio as the output from the MONITOR OUT jacks. | 28 | 71 |
| **BACK COLOUR lamp** | Indicates that the BACK COLOUR control can be adjusted. | 33 | 77 |
| **BACK COLOUR control** | Selects the background colour when the BACK COLOUR button(s) is pressed and lit.<br>This also selects the border colour for wipes and external keying. | 26 33 | 78 |
| **BIT DEFECT button** | Simplifies the video into only several luminance levels while the chrominance is left as original. | 46 | 44 |
| **BYPASS button** | Turns on all circuit of the SEG when it is pressed to OFF provided that the SEG has been put in the BYPASS mode. All the functions available on the SEG are operative. | 21 | 51 |
| **BYPASS lamp** | Lights when the POWER switch on the control panel is pressed to ON. | 21 | 3 |
| **CHROMA KEY button** | Activates the chroma keying using the LINE-B signal as the key signal. | 66 | 105 |
| **CHROMA KEY lamp** | Indicates that the INSERT GAIN control is activated. | 66 | 81 |
| **CHROMINANCE HUE control** | Selects the hue of the colour to be keyed for colouring or chroma key. | 67 | 76 |

| Name of parts (C – E) | Function | Page numbers | Indexed numbers |
|---|---|---|---|
| **CHROMINANCE lamp** | Indicates that the CHROMINANCE HUE and LEVEL controls are activated. | 66 | 75 |
| **CHROMINANCE LEVEL control** | Selects the saturation of the colour to be keyed for colouring or chroma key. | 66 67 | 80 |
| **C NR button** | Reduces the C (chroma) signal noise of the input at the SOURCE IN jack. | 42 | 35 |
| **COLOUR CORRECT button** | Changes the white in the video (white balance) using the COLOUR PLUS stick. | 47 | 45 |
| **COLOUR PLUS lamp** | Indicates that the COLOUR PLUS stick is to be adjusted. | 48 | 57 |
| **COLOUR PLUS stick** | Selects the colour for the effects made with the MONOTONE, COLOUR CORRECT, SOLARIZATION, and COLOURING buttons. | 47 48 | 58 |
| **COLOURING A button** | Changes the colour of the picture in LINE-A which you have selected with the CHROMINANCE HUE and LEVEL controls by adding the colour selected with the COLOUR PLUS stick. | 48 | 42 |
| **CONTROL UNIT connector** | For the connection between the main unit and the control unit. Use the supplied connection cable. | 13 | 16 |
| **CUT button** | Switches the picture from one to another. | 54 | 95 |
| **DEMO (demonstration) switch** | Displays the typical effects available on the SEG one after another automatically. | 73 | 59 |
| **EDIT MONITOR button** | Displays two split screens (LINE-A and LINE-B pictures inserted in the main-screen) on the video monitor connected at the MONITOR OUT jacks. | 27 | 67 |
| **EFFECT (LINE-A) button** | Activates the effects on the LINE-A picture with the buttons in the EFFECT sections. | 35 | 87 |
| **EFFECT (LINE-B) button** | Activates the effects on the LINE-B picture with the buttons in the EFFECT sections. | 35 | 92 |
| **EXT (external) IN jack** | For the sync signal to be externally supplied. Selection is made with the EXT LOCK selector. | 12 29 68 | 24 |
| **EXT KEY (MONITOR SELECT VIDEO) button** | Displays the signal supplied at the EXT IN jack with the EXT LOCK selector set to EXTERNAL. Picture is not normal. | 27 | 68 |
| **EXT KEY button** | Activates the video keying using the signal supplied at the EXT IN jack as the key signal. | 69 | 106 |
| **EXT KEY EDGE selector** | Selects the edge of the inserted title when activating external keying.<br>HARD: Hard border<br>BORDER: Black bold-faced border applied to the periphery of title characters<br>SHADOW: Black border applied to the right and bottom side of title characters | 69 | 102 |
| **EXT KEY lamp** | Indicates that the KEY LEVEL control is activated. | 69 | 83 |

| Name of parts (E – L) | Function | Page numbers | Indexed numbers |
|---|---|---|---|
| **EXT LOCK selector** | Selects the sync signal for the SEG to lock.<br>INTERNAL: Internally generated sync signal<br>EXTERNAL: Externally supplied sync signal (through the EXT IN jack) | 28 29 | 101 |
| **F S OUT jacks** | For the output of the frame-synchronized video signals. These two outputs are synchronous with each other and, therefore, can be processed (mixed, wiped, and switched) using other video equipment. | 18 70 | 20 |
| **FAN** | Cools the main unit when the digital SEG is powered. | 21 | 23 |
| **FRAME button** | Selects the frame or field video to be put in a still picture.<br>ON: Frame video<br>OFF: Field video | 34 | 53 |
| **GPI IN jack** | For the connection to a video editing controller such as an RM-E500/E700 which has a GPI OUT jack*. When the STANDBY button is lit, the SEG begins automatic mixing or wiping in response to the signals from the editing controller. | – | 17 |
| **INPUT SELECT selector** | Selects the appropriate input connector for the SOURCE IN-4 input.<br>REAR: SV input on the rear<br>FRONT: SV input on the front | 17 | 9 |
| **INSERT GAIN (CHROMA KEY) control** | Controls the inserted video level for chroma key. | 67 | 82 |
| **INTERVAL control** | Controls the interval for STROBE and RANDOM. | 41 42 | 34 |
| **KEY LEVEL (EXT KEY) control** | Sets the keyed video level for EXT KEY. | 69 | 84 |
| **LINE (AUDIO INPUT SELECT) button** | Selects the signal supplied at the AUX IN connector to be output. | 26 | 63 |
| **LINE (MONITOR SELECT AUDIO) button** | Selects the audio signal supplied to the AUX IN jacks as the output from the MONITOR OUT jacks. | 28 | 72 |
| **LINE-A-1 through LINE-A-4 buttons** | Select the input source to be output as the LINE-A picture. | 25 | 89 |
| **LINE-A-BACK COLOUR button** | Selects the backcolour to be output as the LINE-A picture. | 26 | 88 |
| **LINE-B-1 through LINE-B-4 buttons** | Select the input source to be output as the LINE-B picture. | 25 | 90 |
| **LINE-B-BACK COLOUR button** | Selects the backcolour to be output as the LINE-B picture. | 26 | 91 |
| **LUMINANCE lamp** | Indicates that the LUMINANCE LEVEL and RANGE controls are to be adjusted. | 48 | 73 |

* Use the GPI OUT connecting cable of the RM-E500/E700 for connection.

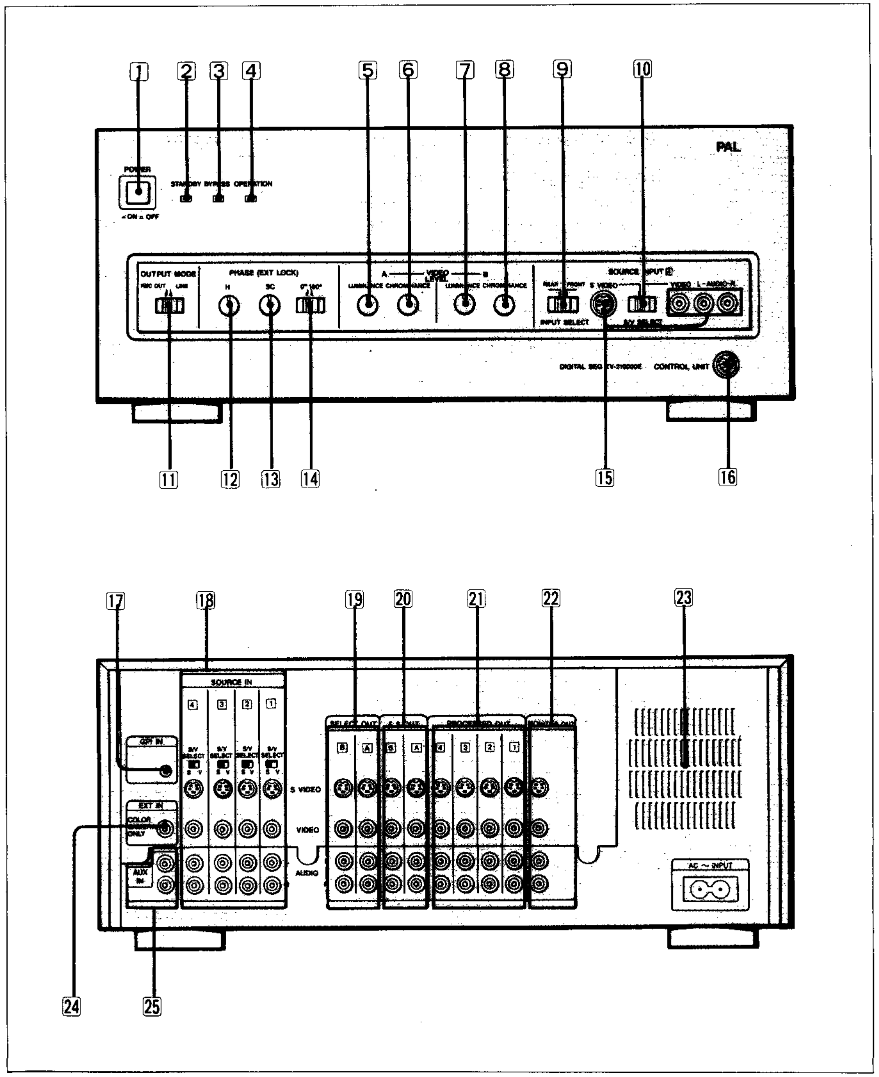
| Name of parts (L – P) | Function | Page numbers | Indexed numbers |
|---|---|---|---|
| **LUMINANCE LEVEL control** | Selects the luminance level of the colour to be painted for solarization. | 48 | 74 |
| **LUMINANCE RANGE control** | Selects the range of the colour to be painted for solarization. | 48 | 79 |
| **MIX button** | Activates mixing with the mixing lever or the START button. | 55 | 104 |
| **Mixing lever** | Used to manually interchange the pictures while the WIPE, MIX, CHROMA KEY or EXT KEY button is lit. It is activated only when the STANDBY button is OFF. | 53 57 | 94 |
| **MONITOR OUT jacks** | For the connection to a video monitor. | 18 30 | 22 |
| **MONOTONE button** | Removes the original chroma in video. The picture can be coloured with a single colour using the COLOUR PLUS stick. | 47 | 40 |
| **MOSAIC button** | Produces mosaic effect on the pictures on the LINE-A and LINE-B while crossfading them. | 58 | 107 |
| **MOSAIC + button** | Changes the video to larger mosaic pieces. | 44 | 37 |
| **MOSAIC – button** | Changes the video to smaller mosaic pieces. | 45 | 38 |
| **MULTI button** | Divides the screen into nine frames. | 38 | 27 |
| **NEGATIVE button** | Reverses the luminance (black and white) and replaces the chrominance with its complementary colours. | 46 | 43 |
| **NORMAL (EFFECT 1) button** | Returns the video effects you have made with the button(s) in the EFFECT-1 section to normal. | 37 | 26 |
| **NORMAL (EFFECT 2) button** | Returns the video effects you have made with the button(s) in the EFFECT-2 section to normal. | 41 | 30 |
| **NORMAL (EFFECT 3) button** | Returns the video effects you have made with the button(s) in the EFFECT-3 section back to normal. | 43 | 36 |
| **ONE-WAY button** | Restricts the wipe to one direction. | 65 | 98 |
| **OPERATION lamp** | Lights when the BYPASS button on the control panel is pressed to OFF. | 21 | 4 |
| **OUTPUT MODE selector** | Selects the output signal at the PROCESSED OUT connectors for recording.<br>REC OUT: When the SEG's connection is made in a loop via a VCR.<br>LINE: When you do not connect a VCR to both the SEG's input and output. | 14 15 | 11 |
| **PHASE (EXT LOCK) H control** | Adjusts the horizontal sync phase in the output video signal with respect to the signal supplied at the EXT IN connector. | 72 | 12 |

| Name of parts (P – R) | Function | Page numbers | Indexed numbers |
|---|---|---|---|
| **PHASE (EXT LOCK) SC control** | Adjusts the subcarrier phase in the output video signal with respect to the signal supplied at the EXT IN connector by about 180 degrees. | 72 | 13 |
| **PHASE (EXT LOCK) SC selector** | Inverts the subcarrier phase in the output video signal so that the phase is controllable by 360 degrees when adjusting it with the PHASE (EXT LOCK)-SC control. | 72 | 14 |
| **PinP (picture-in-picture) button** | Displays the sub-screen at a corner of the main screen. | 40 | 29 |
| **POSITION button** | Activates the POSITION stick when the POSITION lamp is lit. | 50 51 | 56 |
| **Position (light emitting diode) indicator** | Displays the approximate position of the mixing lever or indicates which signal is currently output. The indication does not correspond to the position of the mixing lever when the STANDBY lamp is lit. | 57 | 93 |
| **POSITION lamp** | Indicates that the POSITION stick is activated. | 50 51 | 54 |
| **POSITION stick** | Sets the starting or ending position for wipe or zoom operation, or sets the sub-screen position for PinP. | 50 51 | 55 |
| **POWER switch (on the control unit)** | Turns on only the bypass circuit in the control unit provided that the SEG has been put in the STANDBY mode. The four LINE-A selectors on the control panel are operative. | 21 | 52 |
| **POWER switch (on the main unit)** | Turns on only some circuits in the main unit, and the digital SEG goes into STANDBY mode. The control unit is not operative yet. | 20 21 | 1 |
| **PROCESS OUT (MONITOR SELECT AUDIO) button** | Selects the processed audio as the output from the MONITOR OUT jacks. | 28 | 69 |
| **PROCESS OUT (MONITOR SELECT VIDEO) button** | Selects the processed picture as the output from the MONITOR OUT jacks. | 27 | 64 |
| **PROCESSED OUT jacks** | For the connection to video recorders. The video and audio signals processed with the SEG will be output. | 18 30 | 21 |
| **RANDOM button** | Divides the screen into nine frames and displays each frame in a random order one after another. Use it with the INTERVAL control. | 45 | 39 |
| **REVERSE button** | Reverses the direction of the following effects. WIPE, MIX, CHROMA KEY and EXT KEY | 65 | 99 |

| Name of parts (S – T) | Function | Page numbers | Indexed numbers |
|---|---|---|---|
| **SELECT A (MONITOR SELECT VIDEO) button** | Selects the LINE-A picture as the output from the MONITOR OUT jack. | 27 | 65 |
| **SELECT B (MONITOR SELECT VIDEO) button** | Selects the LINE-B picture as the output from the MONITOR OUT jack. | 27 | 66 |
| **SELECT OUT jacks** | For the LINE-A and LINE-B outputs selected from the four SOURCE IN signals with the VIDEO INPUT SELECT buttons. | 18 30 | 19 |
| **SOFT FOCUS button** | Produces off-focus soft images on the entire screen. | 47 | 46 |
| **SOLARIZATION button** | Adds the colour you have selected with the COLOUR PLUS stick to a part of the picture. The part to add the colour can be selected using the LUMINANCE controls. | 48 | 41 |
| **SOLARIZATION A button** | Overlaps the LINE-B picture over the LINE-A picture gradually in the order of the brightness level of the LINE-A picture. | 59 | 109 |
| **SOLARIZATION B button** | Overlaps the LINE-A picture over the LINE-B picture gradually in the order of the brightness level of the LINE-B picture. | 59 | 110 |
| **SOURCE IN jacks** | For the connection to video players. The video and audio signals are to be input. | 16 | 18 |
| **SOURCE INPUT 4 S/V SELECT selector** | Selects the appropriate connector for the SOURCE IN-4 connector on the front.<br>S VIDEO: S video connector<br>VIDEO: VIDEO jack for composite video (VBS: Video, Burst, and Sync) signal | 17 | 10 |
| **STANDBY button** | Selects manual or automatic effects control.<br>ON: START button may be used.<br>OFF: Mixing lever may be used. | 53 | 96 |
| **STANDBY lamp** | Lights when the POWER switch on the main unit is pressed in to ON. | 20 | 2 |
| **START button** | Switches the picture when the STANDBY button is lit . | 53 | 97 |
| **STILL button** | Stops the picture motion as long as desired. | 41 | 31 |
| **STROBE (EFFECT 2) button** | Freezes the picture and moves it step by step. Use with the INTERVAL lever. | 41 | 32 |
| **STROBE (FADE) button** | Flashes picture motion on the LINE-A and LINE-B at specific intervals while crossfading them. | 58 | 108 |
| **TITLE INDEX button** | Stops the motion of the video displayed in each screen one after another when the MULTI button is pressed and lit. | 39 | 28 |

| Name of parts (V – Z) | Function | Page numbers | Indexed numbers |
|---|---|---|---|
| **V ENHANCE button** | Makes objects stand out from the background by emphasizing their top and bottom outlines. | 49 | 47 |
| **VIDEO L-AUDIO-R jack and S VIDEO connector** | For the SOURCE IN-4 video and audio inputs when the INPUT SELECT selector is set to FRONT. | 17 | 15 |
| **VIDEO LEVEL A CHROMINANCE control** | Adjusts the colour intensity of the LINE-A picture. | 71 | 6 |
| **VIDEO LEVEL A LUMINANCE control** | Adjusts the brightness of the LINE-A picture. | 71 | 5 |
| **VIDEO LEVEL B CHROMINANCE control** | Adjusts the colour intensity of the LINE-B picture. | 71 | 8 |
| **VIDEO LEVEL B LUMINANCE control** | Adjusts the brightness of the LINE-B picture. | 71 | 7 |
| **VIDEO LINK (AUDIO INPUT SELECT) button** | Selects the audio signal(s) which is(are) linked in the displayed picture to be output. | 26 | 60 |
| **WIPE EDGE selector** | Selects the edge shape of the wiped frame border.<br>HARD: Hard border<br>BORDER: Coloured border<br>SOFT: Soft border | 60 | 85 |
| **WIPE PATTERN buttons** | Create various wipe patterns as marked on each button. | 61 62 63 64 65 | 100 |
| **WIPE button** | Activates the buttons in the WIPE PATTERN section | 60 | 103 |
| **Y NR button** | Reduces the Y (luminance) signal noise of the input at the SOURCE IN jack. | 42 | 33 |
| **ZOOM + (zoom in) button** | Zooms in the picture. | 50 | 50 |
| **ZOOM – (zoom out) button** | Zooms out the picture. | 51 | 49 |

## Indexed numbers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STANDBY BYPASS OPERATION
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OUTPUT MODE
PHASE (EXT LOCK)
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SC
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VIDEO LEVEL
B
LUMINANCE CHROMINANCE
LUMINANCE CHROMINANCE
SOURCE INPUT 4
REAR FRONT
S VIDEO
VIDEO L-AUDIO-R
INPUT SELECT
S/V SELECT
DIGITAL SEG TV-2100
CONTROL UNIT
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SOURCE IN
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S/V SELECT
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GPI IN
EXT IN
COLOR ONLY
AUX IN
SELECT OUT
PROCESSED OUT
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S VIDEO
VIDEO
AUDIO
AC ~ INPUT
24
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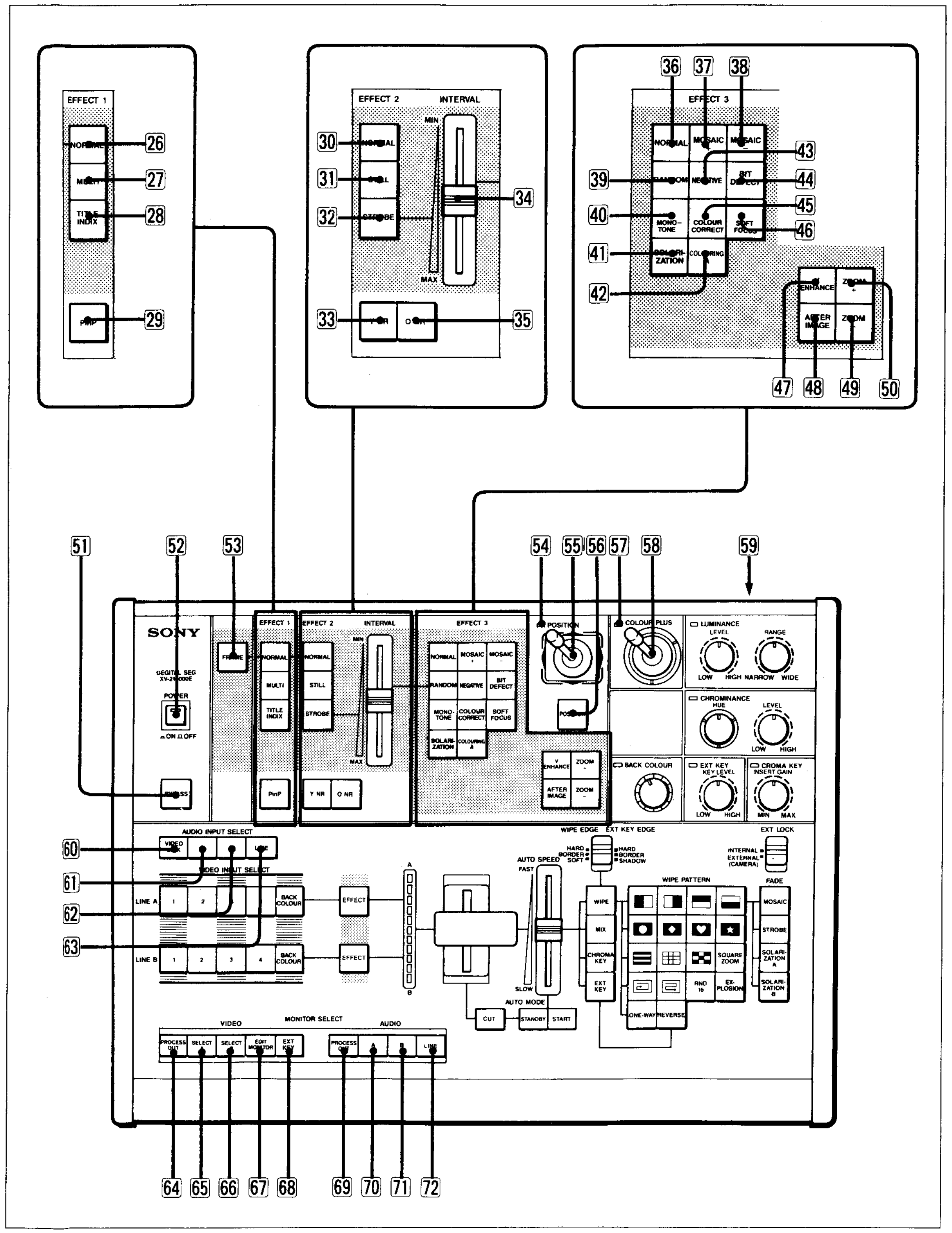
## Overall Appearance and Purpose of the Mechanism


EFFECT 1
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MULTI
TITLE INDEX
PinP
EFFECT 2
INTERVAL
MIN
MAX
NORMAL
STILL
STROBE
Y NR
C NR
EFFECT 3
NORMAL
MOSAIC
RANDOM
NEGATIVE
BIT DEFECT
MONO-TONE
COLOUR CORRECT
SOFT FOCUS
SOLARI-ZATION
COLOURING
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EXT KEY EDGE
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BORDER
SOFT
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AUTO SPEED
FAST
SLOW
AUTO MODE
CUT
STANDBY
START
INTERNAL
EXTERNAL
(CAMERA)
EXT LOCK
WIPE PATTERN
WIPE
MIX
CHROMA KEY
EXT KEY
SQUARE ZOOM
RND 16
EX-PLOSION
ONE-WAY
REVERSE
FADE
MOSAIC
STROBE
SOLARI-ZATION A
SOLARI-ZATION B
VIDEO
MONITOR SELECT
AUDIO
PROCESS OUT
SELECT A
SELECT B
EDIT MONITOR
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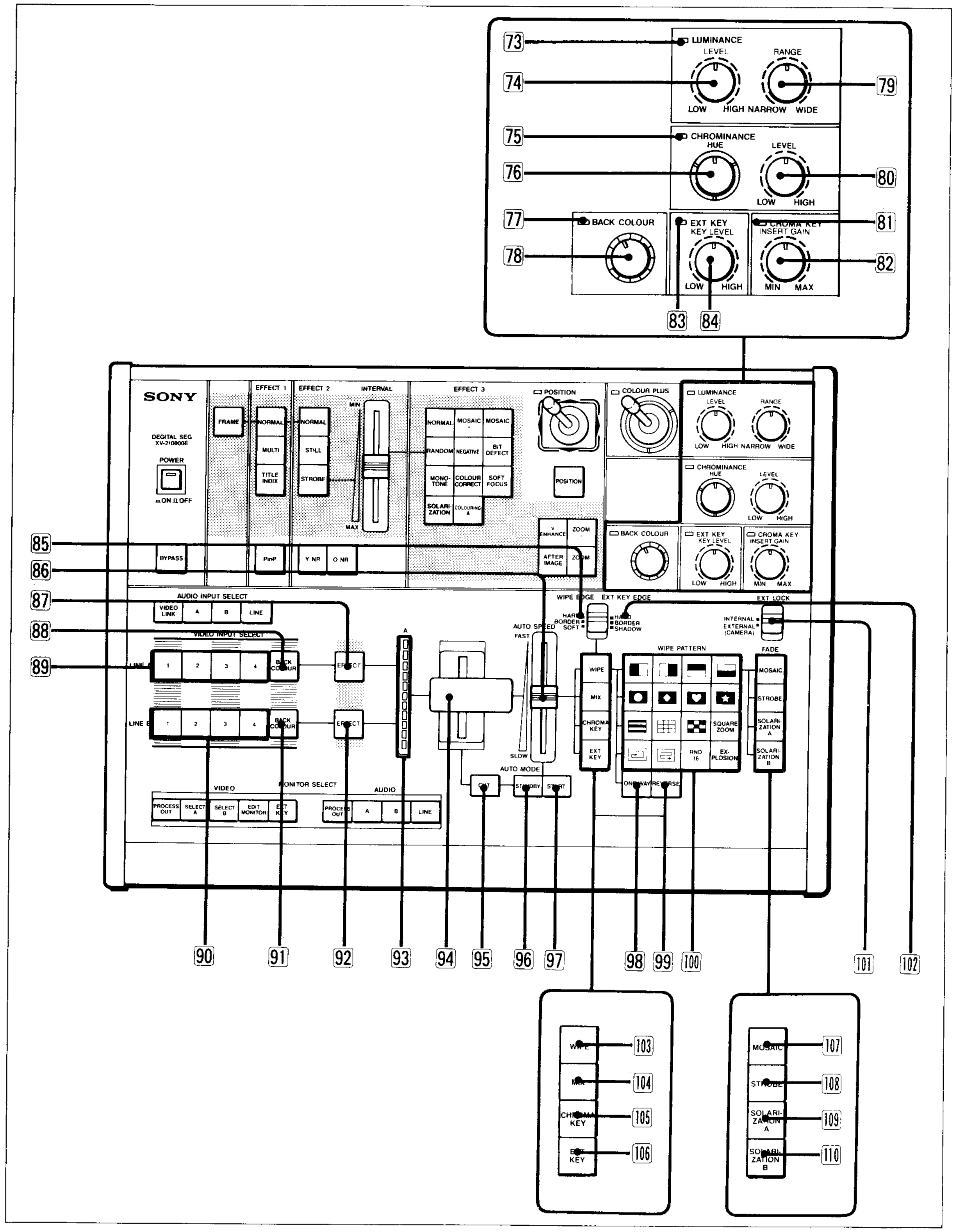
LUMINANCE
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RANGE
LOW HIGH NARROW WIDE
CHROMINANCE
HUE
LEVEL
LOW HIGH
BACK COLOUR
EXT KEY
KEY LEVEL
LOW HIGH
CROMA KEY
INSERT GAIN
MIN MAX
SONY
DIGITAL SEG XV-Z10000E
POWER
ON OFF
FRAME
BYPASS
EFFECT 1
EFFECT 2
INTERVAL
EFFECT 3
POSITION
COLOUR PLUS
AUDIO INPUT SELECT
VIDEO INPUT SELECT
LINE A
LINE B
WIPE EDGE
EXT KEY EDGE
EXT LOCK
AUTO SPEED
AUTO MODE
WIPE PATTERN
FADE
MONITOR SELECT
WIPE
MIX
CHROMA KEY
EXT KEY
MOSAIC
STROBE
SOLARI-ZATION A
SOLARI-ZATION B
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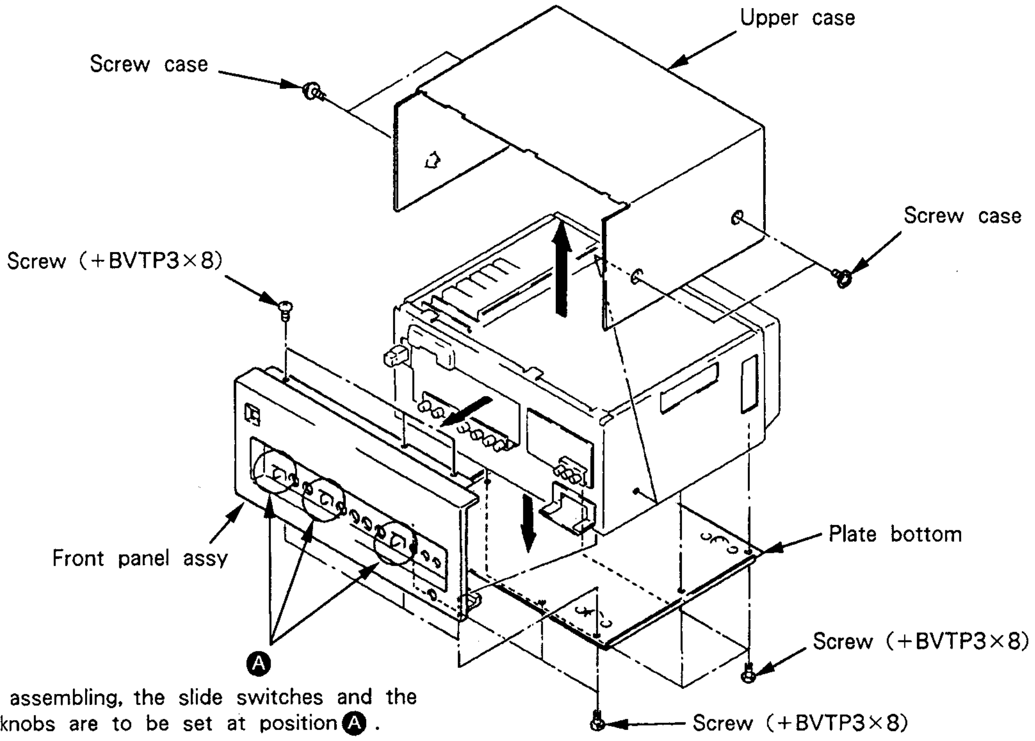
# SECTION 3
# DISASSEMBLY

## 3-1. MAIN UNIT

### 3-1-1. Removal Case and Front Panel


Upper case
Screw case
Screw case
Screw (+BVTP3×8)
Front panel assy
Plate bottom
Screw (+BVTP3×8)
Ⓐ
Screw (+BVTP3×8)

Note : When assembling, the slide switches and the slide knobs are to be set at positionⒶ.

Fig. 3-1-1

### 3-1-2. Removal DP-40 (B) Board

1) Remove the screws ❶.
2) Open the circuit board a little and shift part ❷ at the side of the front panel in the direction of arrow ❸.

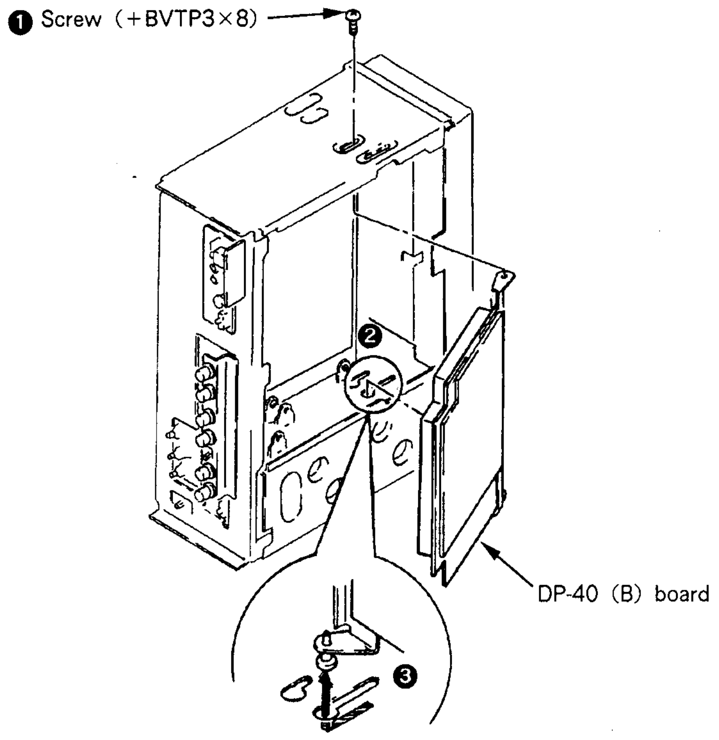

❶ Screw (+BVTP3×8)
❷
❸
DP-40 (B) board

Fig. 3-1-2

### 3-1-3. Removal PP-10 Board, CB-30 Board and DP-40 (A) Board

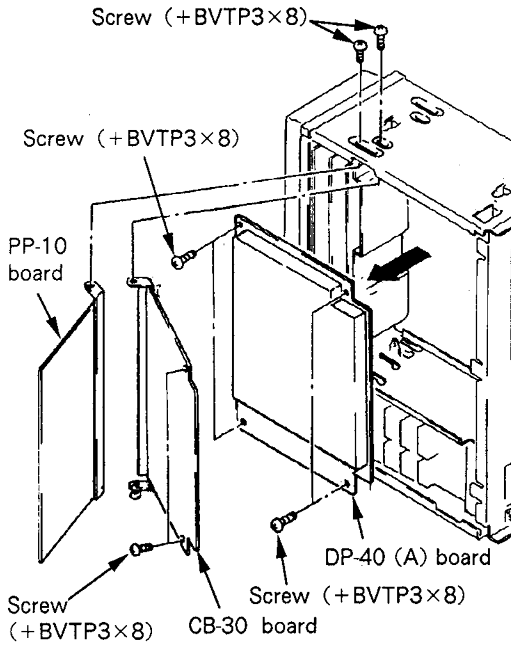

Screw (+BVTP3×8)
Screw (+BVTP3×8)
PP-10 board
DP-40 (A) board
Screw (+BVTP3×8)
Screw (+BVTP3×8)
CB-30 board

Fig. 3-1-3

### 3-1-4. Removal MB-45 Board

1) Remove the (upper) shield case.
2) Stand the MB-45 board as indicated by arrow ❷.
3) Forcefully remove the MB-45 board in the direction of ❸.

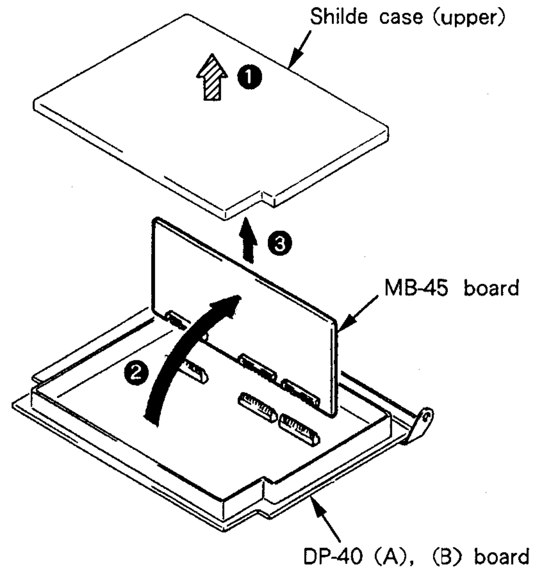

Shilde case (upper)
❶
❸
❷
MB-45 board
DP-40 (A), (B) board

Fig. 3-1-4

### 3-1-5. Removal TS-121 Board, TS-122 Board and TS-123 Board

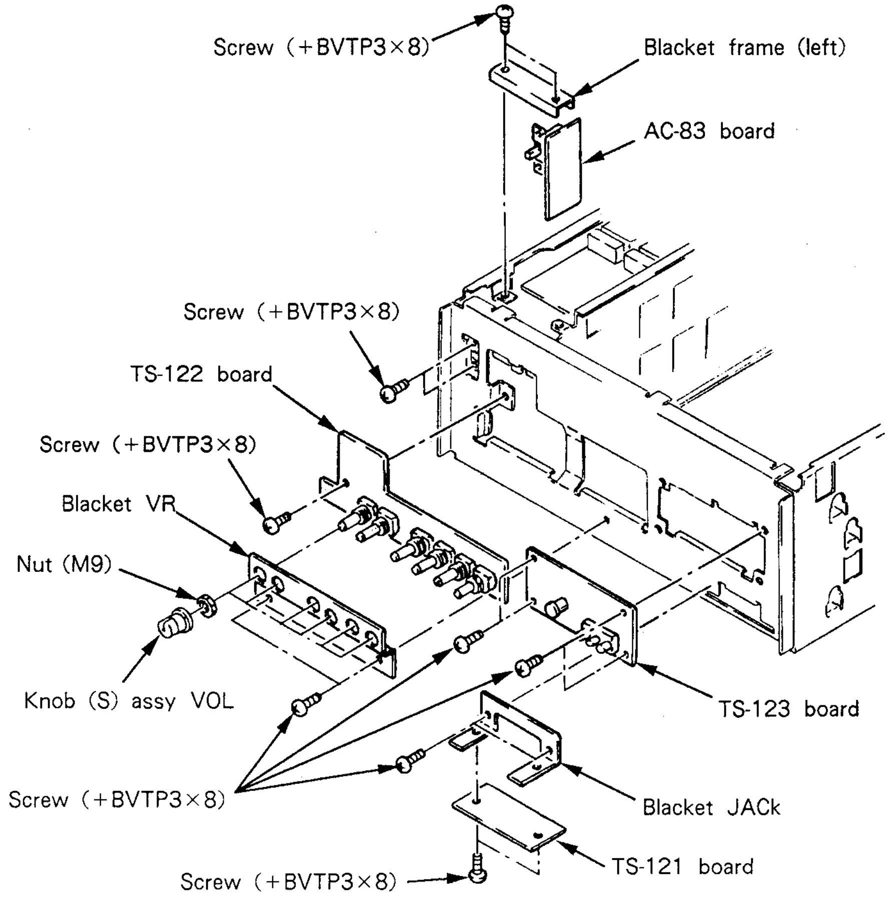

Screw (+BVTP3×8)
Blacket frame (left)
AC-83 board
Screw (+BVTP3×8)
TS-122 board
Screw (+BVTP3×8)
Blacket VR
Nut (M9)
Knob (S) assy VOL
TS-123 board
Screw (+BVTP3×8)
Blacket JACk
TS-121 board
Screw (+BVTP3×8)

Fig. 3-1-5

### 3-2-4. Removal Front Panel and Fader Lever

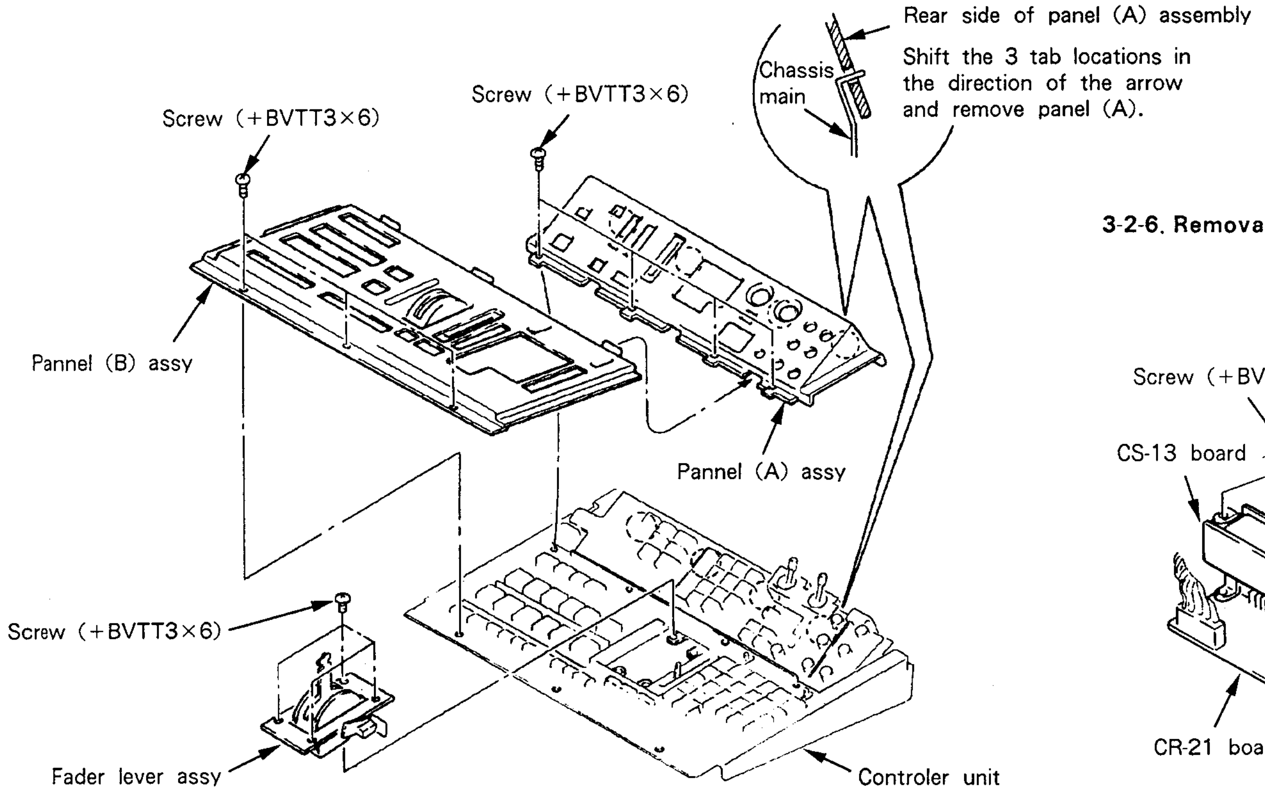

Rear side of panel (A) assembly
Shift the 3 tab locations in the direction of the arrow and remove panel (A).
Chassis main
Screw (+BVTT3×6)
Screw (+BVTT3×6)
Pannel (B) assy
Pannel (A) assy
Screw (+BVTT3×6)
Fader lever assy
Controler unit

Fig. 3-2-4

### 3-2-5. Removal CR-18 Board, CR-19 Board and CR-20 Board

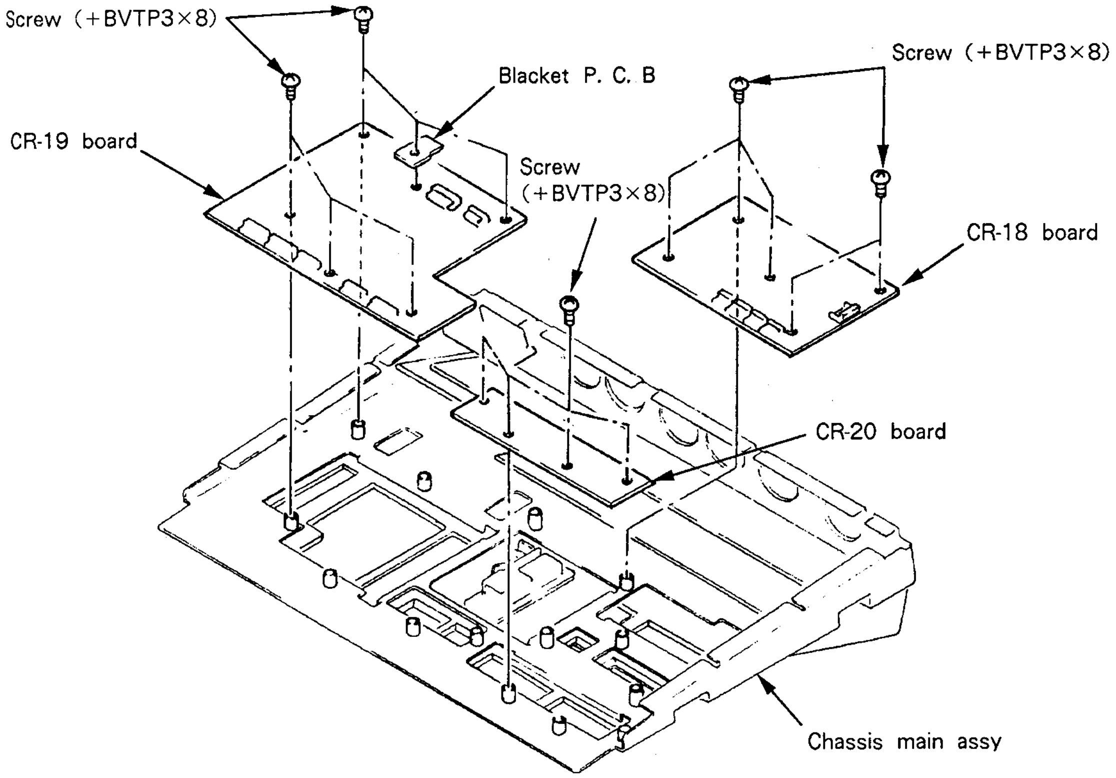

Screw (+BVTP3×8)
Blacket P. C. B
Screw (+BVTP3×8)
CR-19 board
Screw (+BVTP3×8)
CR-18 board
CR-20 board
Chassis main assy

Fig. 3-2-5

### 3-2-6. Removal CS-13 Board and CR-21 Board

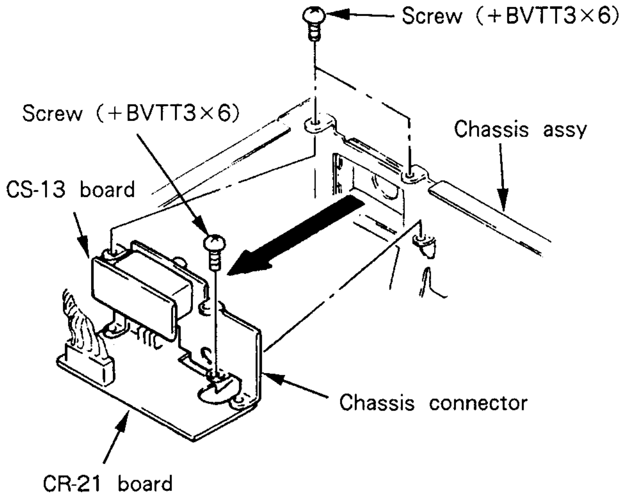

Screw (+BVTT3×6)
Screw (+BVTT3×6)
Chassis assy
CS-13 board
Chassis connector
CR-21 board

Fig. 3-2-6

### 3-2-7. Removal CM-12E Board, VR-17 Board and VR-18 Board

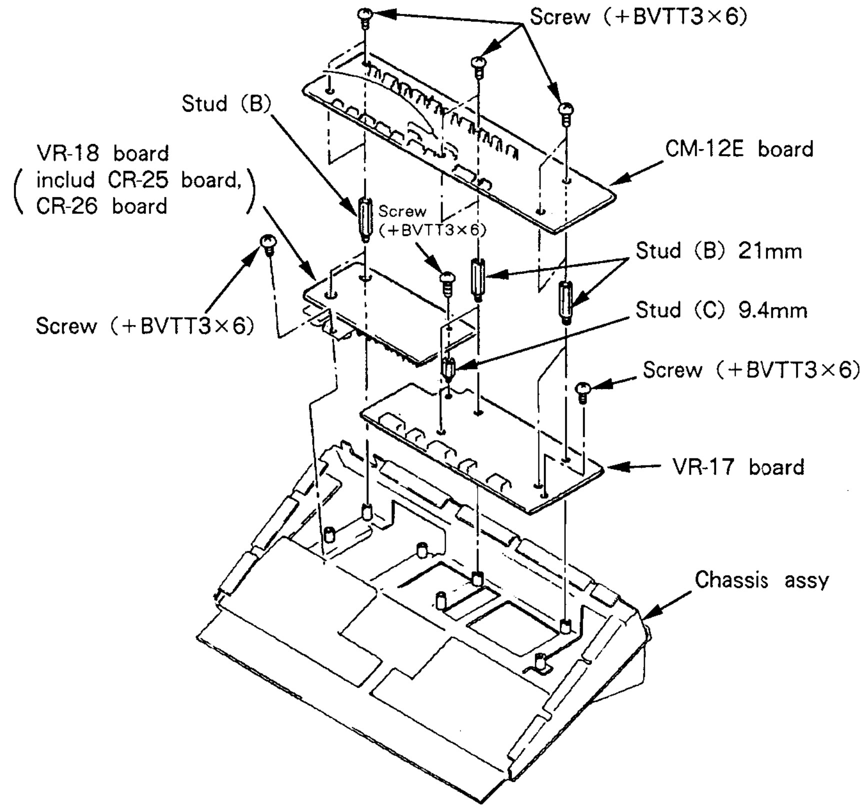

Screw (+BVTT3×6)
Stud (B)
CM-12E board
VR-18 board (includ CR-25 board, CR-26 board)
Screw (+BVTT3×6)
Stud (B) 21mm
Stud (C) 9.4mm
Screw (+BVTT3×6)
Screw (+BVTT3×6)
VR-17 board
Chassis assy

Fig. 3-2-7

### 3-2-8. Removal CR-25 Board and CR-26 Board

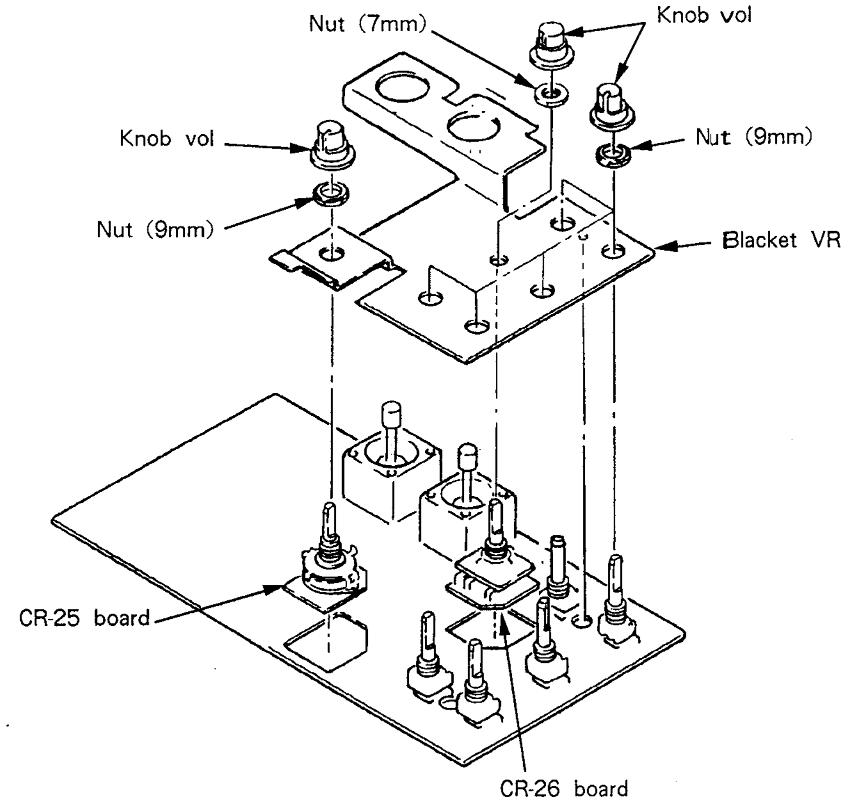

Nut (7mm)
Knob vol
Knob vol
Nut (9mm)
Nut (9mm)
Blacket VR
CR-25 board
CR-26 board

Fig. 3-2-8

### 3-1-6. Removel Switching Block

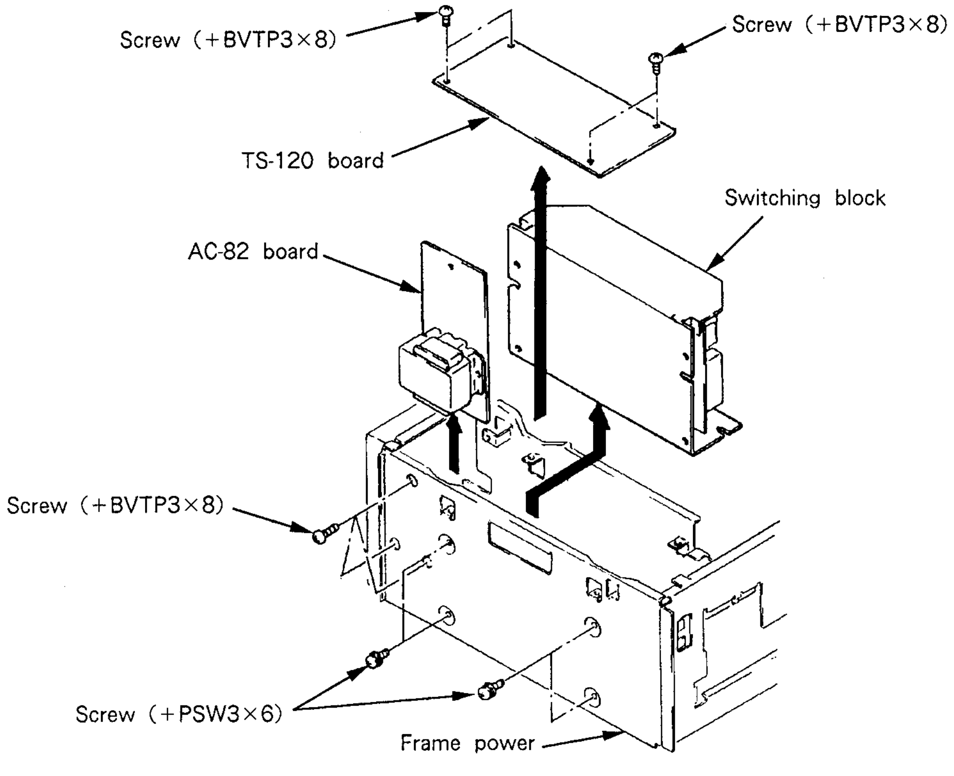

Screw (+BVTP3×8)
Screw (+BVTP3×8)
TS-120 board
Switching block
AC-82 board
Screw (+BVTP3×8)
Screw (+PSW3×6)
Frame power

Fig. 3-1-6

### 3-1-7. Removal Rear Panel Section

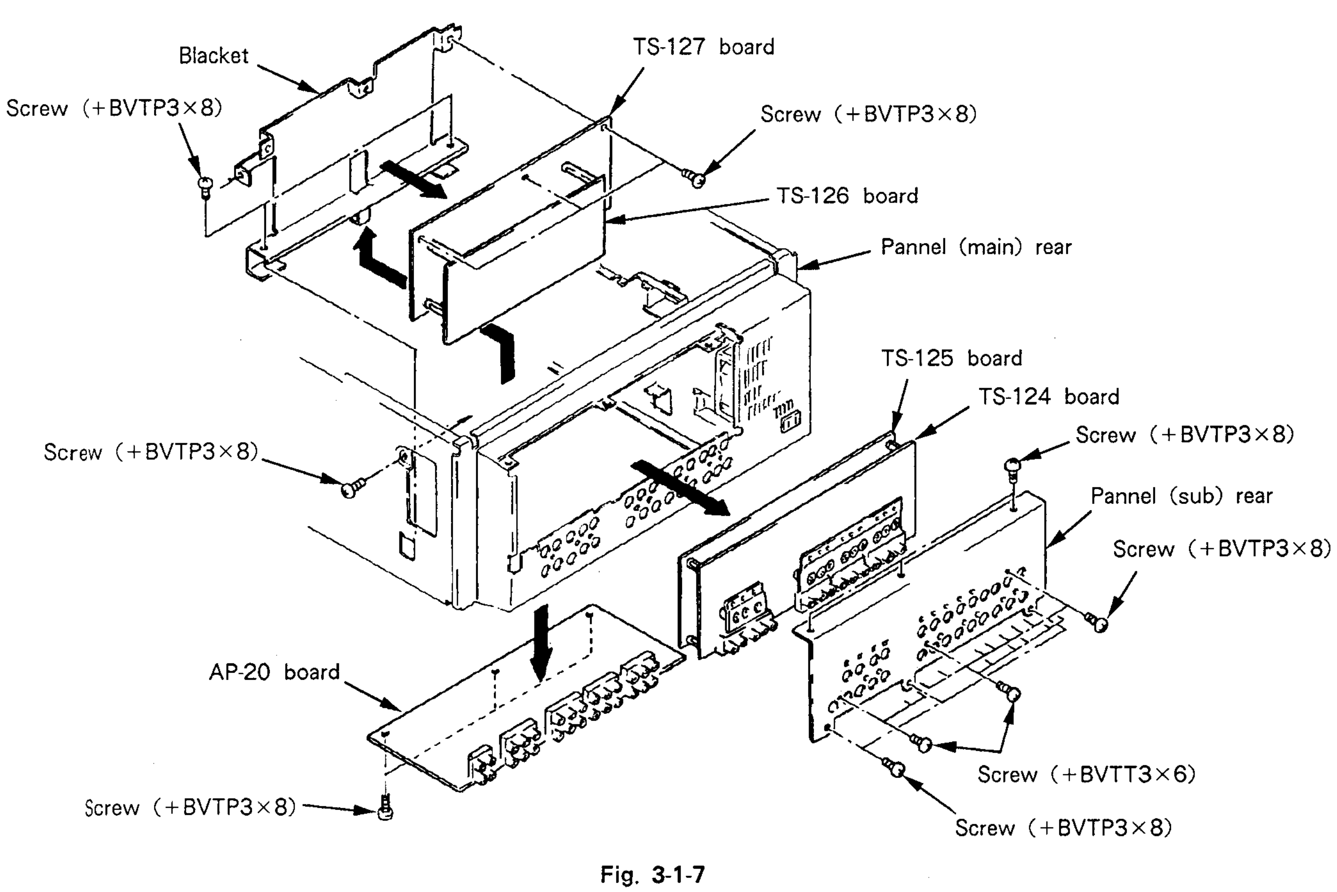

Blacket
TS-127 board
Screw (+BVTP3×8)
Screw (+BVTP3×8)
TS-126 board
Pannel (main) rear
TS-125 board
TS-124 board
Screw (+BVTP3×8)
Screw (+BVTP3×8)
Pannel (sub) rear
Screw (+BVTP3×8)
AP-20 board
Screw (+BVTT3×6)
Screw (+BVTP3×8)
Screw (+BVTP3×8)

Fig. 3-1-7

## 3-2. CONTROL UNIT SECTION

### 3-2-1. Removal Panel

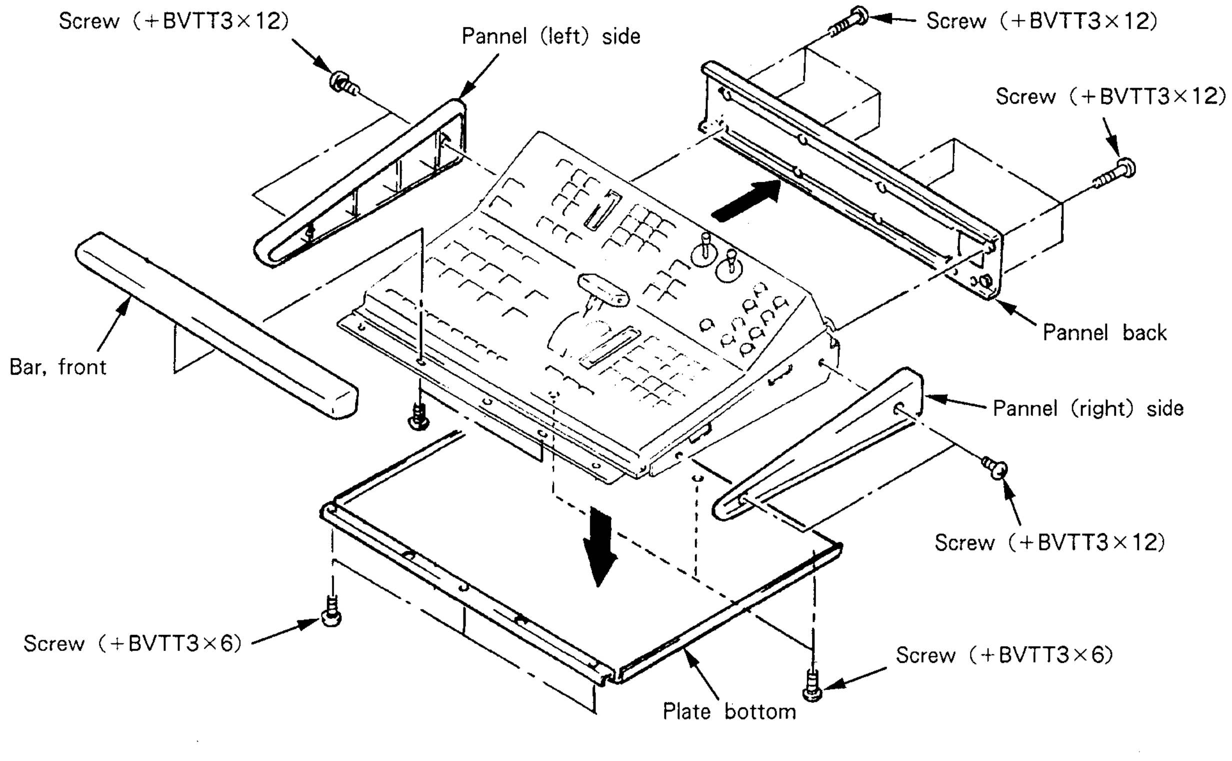

Screw (+BVTT3×12)
Pannel (left) side
Screw (+BVTT3×12)
Screw (+BVTT3×12)
Pannel back
Bar, front
Pannel (right) side
Screw (+BVTT3×12)
Screw (+BVTT3×6)
Screw (+BVTT3×6)
Plate bottom

Fig. 3-2-1

### 3-2-2. Removal Fader Lever Handule

1) When viewed from the front, there will be a small hole in the right side ❶ of the fader lever handle. Insert a rod ❷ (for example, the tip of a tester probe that can be entered into the hole) in the direction of arrow ❸.
2) Remove the fader lever handle in the direction of arrow ❹. To install, simply pressing the handle onto the support will lock it in place.

### 3-2-3. Precautions when Removing the Panel (A) and (B) Assemblies

When removing panels (A) and (B), first cut off the knobs of the sliding variable resistors (INTERVAL and AUTO SPEED) with nippers of the panels cannot be removed. Be careful at this time that the shaft of the resistor (Fig. 1) is not bent. Note thet forcefully pulling the knob might damege the variable resistor.

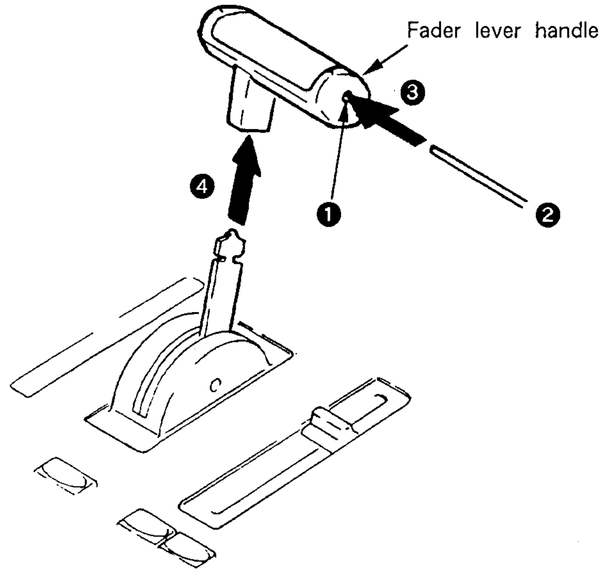

Fader lever handle
❸
❹
❶
❷

Fig. 3-2-2.

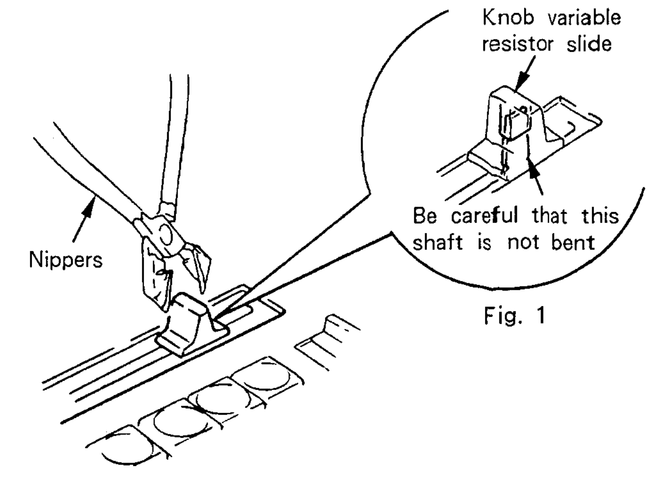
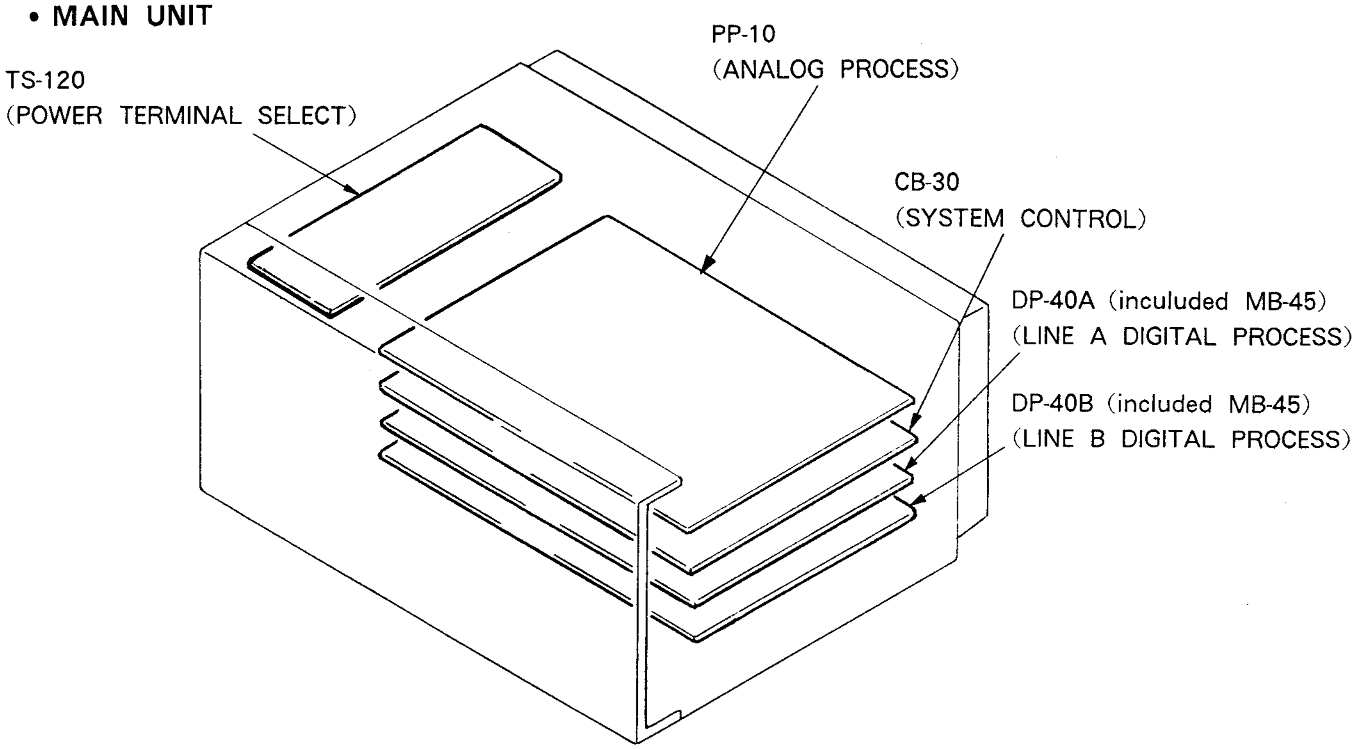

Knob variable resistor slide
Be careful that this shaft is not bent
Nippers
Fig. 1

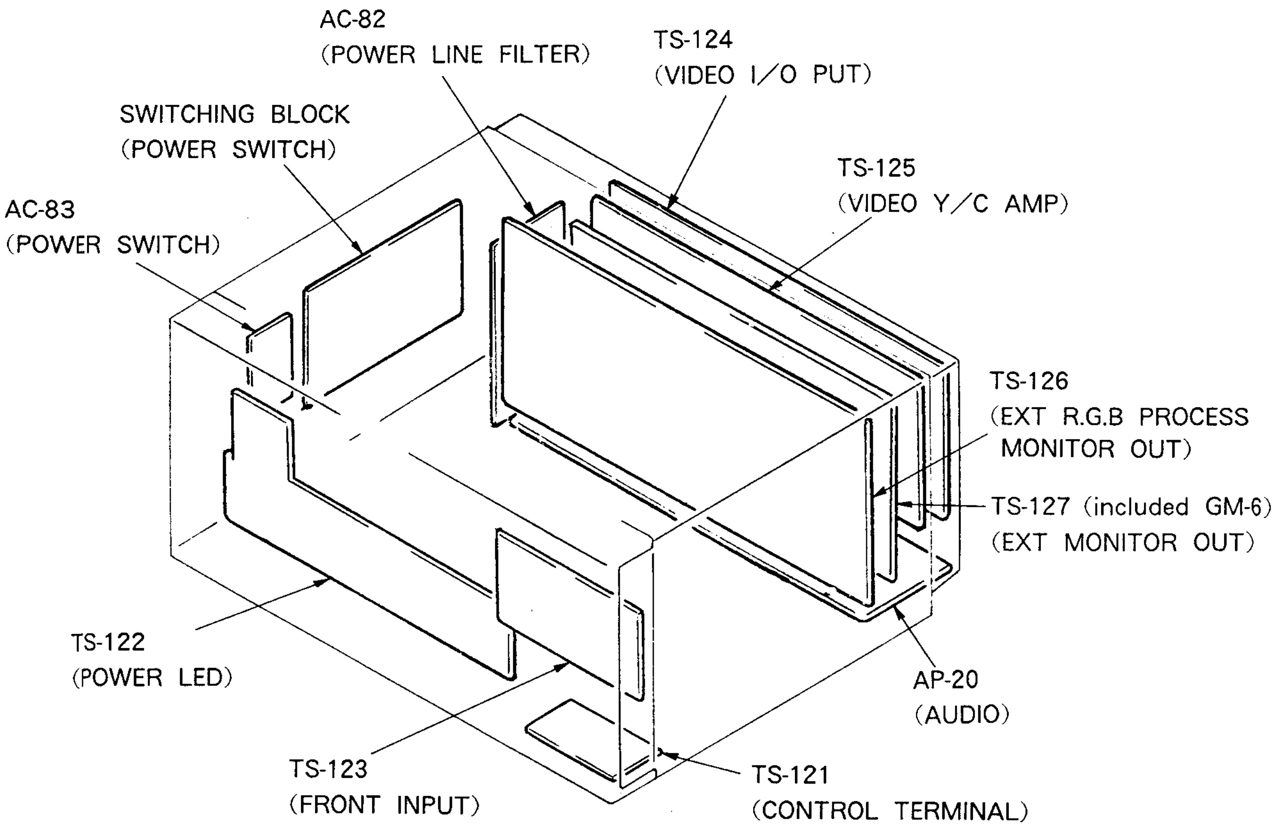
Fig. 3-2-3

## SECTION 4
## DIAGRAMS

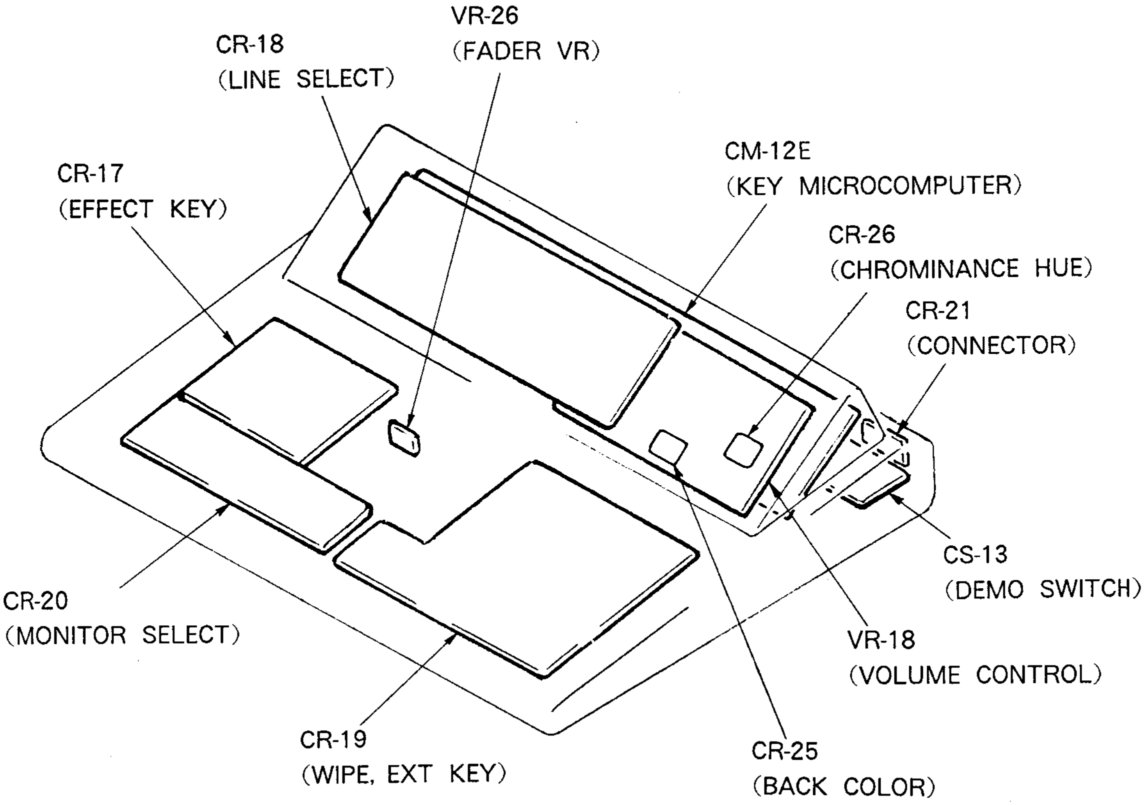
### 4-1. CIRCUIT BOARD LOCATIONS

- **MAIN UNIT**

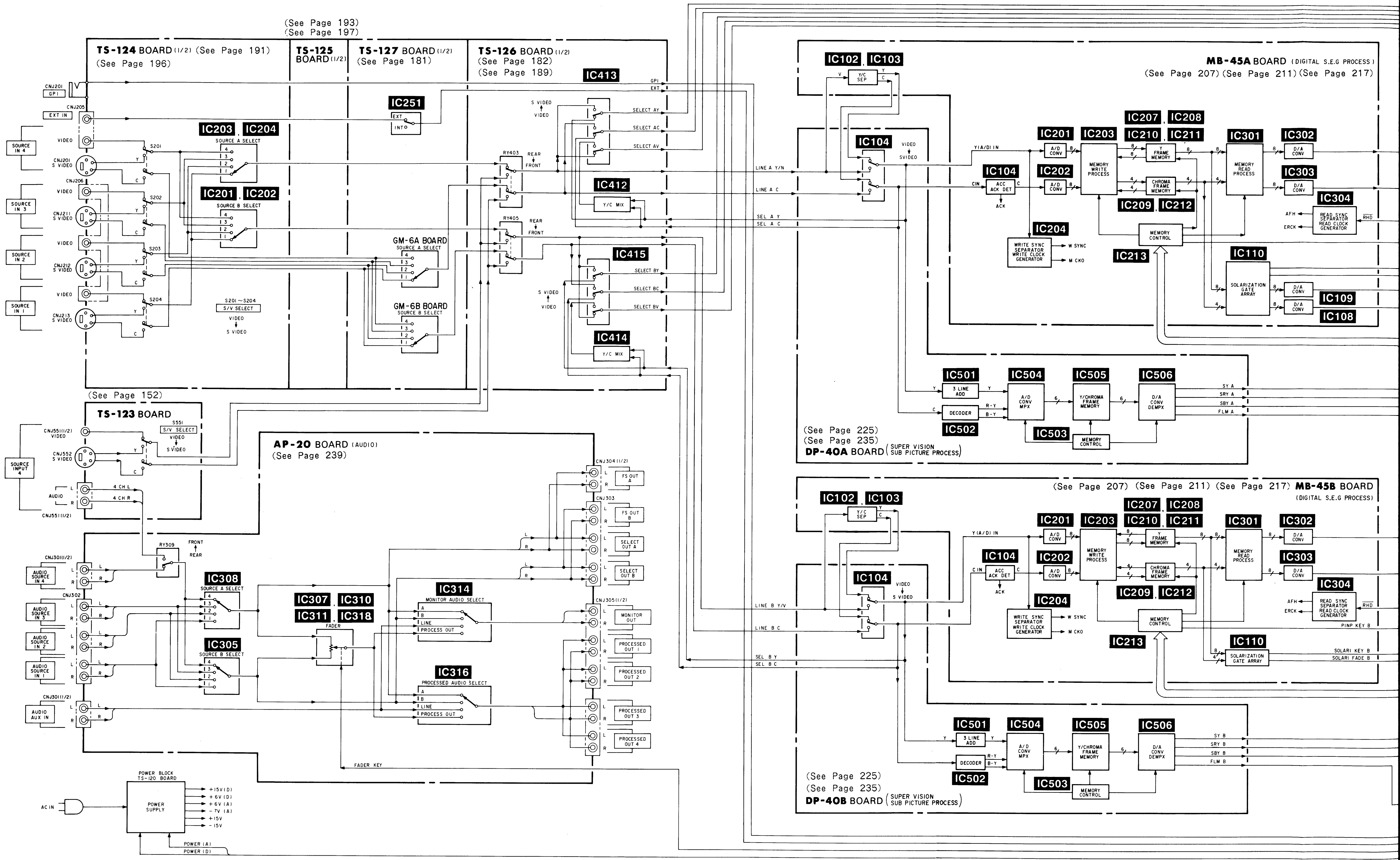

TS-120
(POWER TERMINAL SELECT)
PP-10
(ANALOG PROCESS)
CB-30
(SYSTEM CONTROL)
DP-40A (inculuded MB-45)
(LINE A DIGITAL PROCESS)
DP-40B (included MB-45)
(LINE B DIGITAL PROCESS)

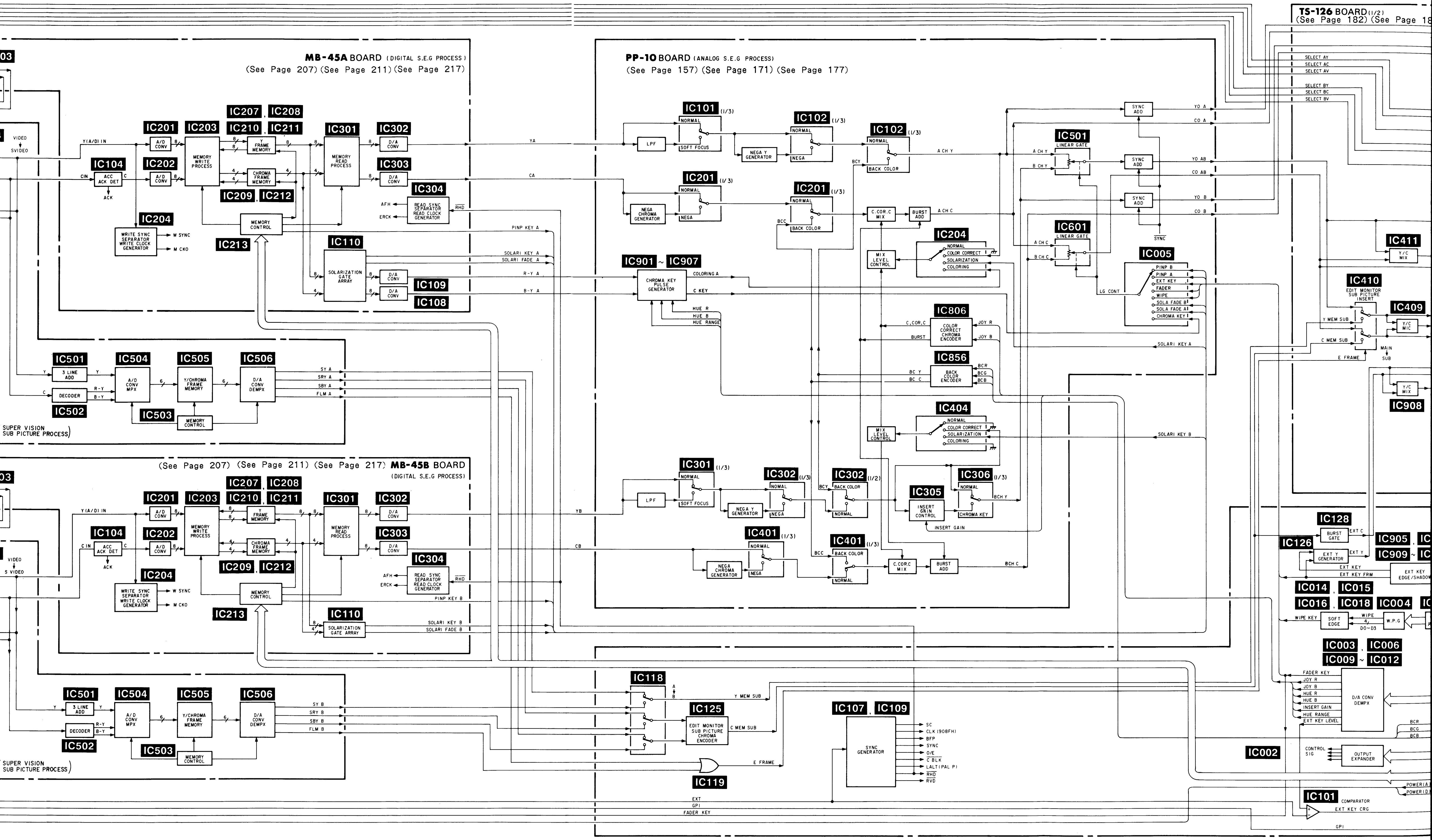

AC-82
(POWER LINE FILTER)
TS-124
(VIDEO I/O PUT)
SWITCHING BLOCK
(POWER SWITCH)
TS-125
(VIDEO Y/C AMP)
AC-83
(POWER SWITCH)
TS-126
(EXT R.G.B PROCESS
MONITOR OUT)
TS-127 (included GM-6)
(EXT MONITOR OUT)
TS-122
(POWER LED)
AP-20
(AUDIO)
TS-123
(FRONT INPUT)
TS-121
(CONTROL TERMINAL)

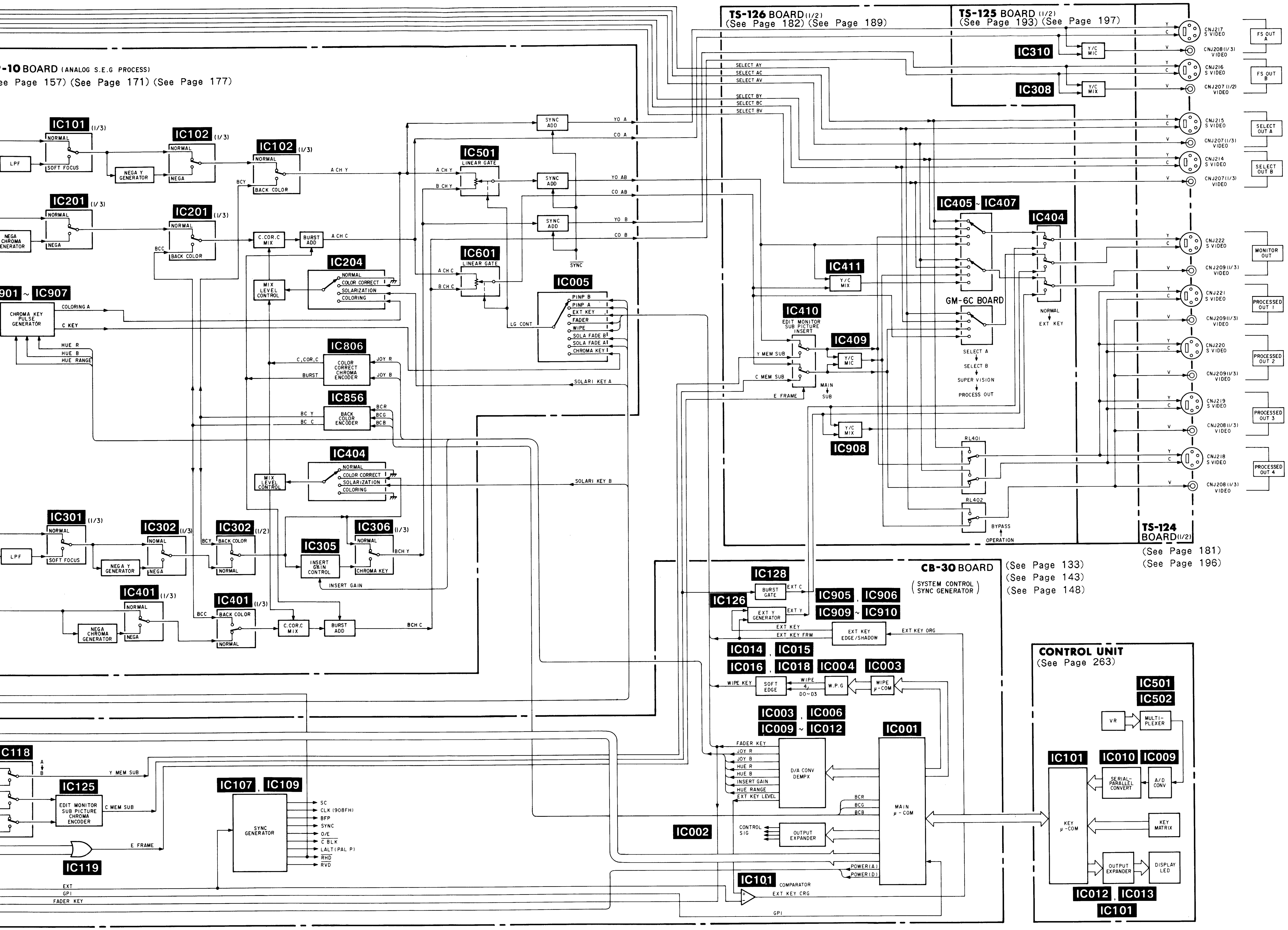
- **CONTROL UNIT**


VR-26
(FADER VR)
CR-18
(LINE SELECT)
CR-17
(EFFECT KEY)
CM-12E
(KEY MICROCOMPUTER)
CR-26
(CHROMINANCE HUE)
CR-21
(CONNECTOR)
CS-13
(DEMO SWITCH)
CR-20
(MONITOR SELECT)
VR-18
(VOLUME CONTROL)
CR-19
(WIPE, EXT KEY)
CR-25
(BACK COLOR)

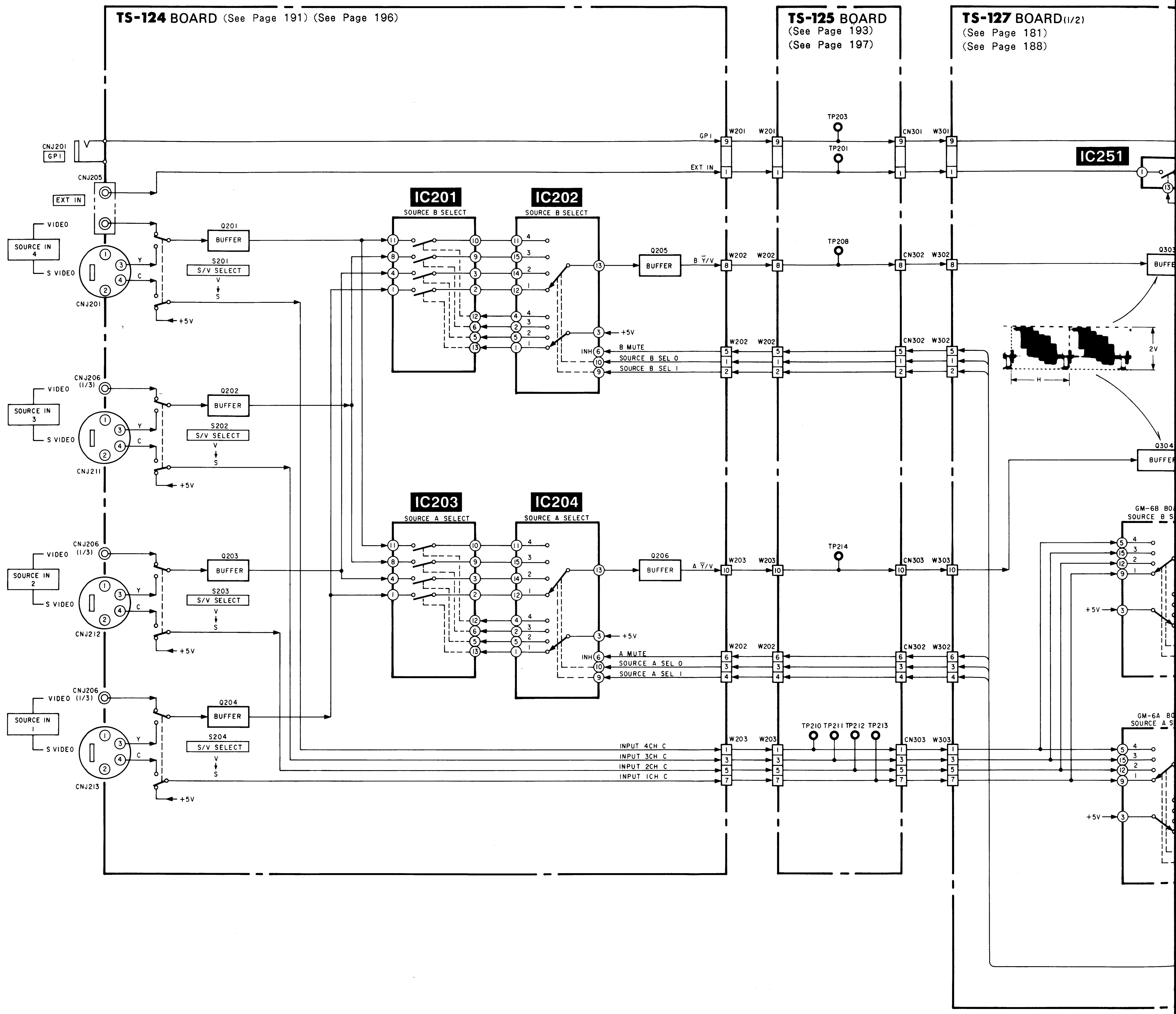
## 4-2. OVERALL BLOCK DIAGRAM


(See Page 193)
(See Page 197)
TS-124 BOARD (1/2) (See Page 191)
(See Page 196)
TS-125 BOARD (1/2)
TS-127 BOARD (1/2) (See Page 181)
TS-126 BOARD (1/2)
(See Page 182)
(See Page 189)
CNJ201 GPI
CNJ205 EXT IN
SOURCE IN 4
SOURCE IN 3
SOURCE IN 2
SOURCE IN 1
VIDEO
CNJ201 S VIDEO
CNJ206
CNJ211 S VIDEO
CNJ212 S VIDEO
CNJ213 S VIDEO
S201
S202
S203
S204
Y
C
IC203, IC204
SOURCE A SELECT
IC201, IC202
SOURCE B SELECT
S201~S204
S/V SELECT
VIDEO
S VIDEO
IC251
EXT
INT
GM-6A BOARD
SOURCE A SELECT
GM-6B BOARD
SOURCE B SELECT
RY403
REAR
FRONT
RY405
IC413
GPI
EXT
S VIDEO
VIDEO
SELECT AY
SELECT AC
SELECT AV
IC412
Y/C MIX
IC415
SELECT BY
SELECT BC
SELECT BV
IC414
Y/C MIX
(See Page 152)
TS-123 BOARD
S551
S/V SELECT
VIDEO
S VIDEO
CNJ551(1/2) VIDEO
CNJ552 S VIDEO
SOURCE INPUT 4
AUDIO L R
4CH L
4CH R
CNJ551(1/2)
AP-20 BOARD (AUDIO)
(See Page 239)
RY309
FRONT
REAR
CNJ301(1/2)
AUDIO SOURCE IN 4
CNJ302
AUDIO SOURCE IN 3
AUDIO SOURCE IN 2
AUDIO SOURCE IN 1
CNJ301(1/2)
AUDIO AUX IN
IC308
SOURCE A SELECT
IC305
SOURCE B SELECT
IC307, IC310
IC311, IC318
FADER
IC314
MONITOR AUDIO SELECT
A
B
LINE
PROCESS OUT
IC316
PROCESSED AUDIO SELECT
CNJ304(1/2)
FS OUT A
CNJ303
FS OUT B
SELECT OUT A
SELECT OUT B
CNJ305(1/2)
MONITOR OUT
PROCESSED OUT 1
PROCESSED OUT 2
PROCESSED OUT 3
PROCESSED OUT 4
FADER KEY
POWER BLOCK
TS-120 BOARD
POWER SUPPLY
AC IN
+15V(D)
+6V(D)
+6V(A)
-7V(A)
+15V
-15V
POWER (A)
POWER (D)
LINE A Y/N
LINE A C
SEL A Y
SEL A C
LINE B Y/N
LINE B C
SEL B Y
SEL B C
MB-45A BOARD (DIGITAL S.E.G PROCESS)
(See Page 207) (See Page 211) (See Page 217)
IC102, IC103
Y/C SEP
IC104
VIDEO
S VIDEO
Y(A/D) IN
CIN
ACC ACK DET
ACK
IC201
A/D CONV
IC202
A/D CONV
IC203
MEMORY WRITE PROCESS
IC207, IC208
IC210, IC211
Y FRAME MEMORY
CHROMA FRAME MEMORY
IC209, IC212
IC204
WRITE SYNC SEPARATOR WRITE CLOCK GENERATOR
W SYNC
M CKO
MEMORY CONTROL
IC213
IC301
MEMORY READ PROCESS
IC302
D/A CONV
IC303
D/A CONV
IC304
READ SYNC SEPARATOR READ CLOCK GENERATOR
AFH
ERCK
RHD
IC110
SOLARIZATION GATE ARRAY
D/A CONV
IC109
IC108
IC501
3 LINE ADD
IC504
A/D CONV MPX
IC505
Y/CHROMA FRAME MEMORY
IC506
D/A CONV DEMPX
DECODER
IC502
R-Y
B-Y
IC503
MEMORY CONTROL
SY A
SRY A
SBY A
FLM A
(See Page 225)
(See Page 235)
DP-40A BOARD (SUPER VISION SUB PICTURE PROCESS)
(See Page 207) (See Page 211) (See Page 217) MB-45B BOARD
(DIGITAL S.E.G PROCESS)
PINP KEY B
SOLARI KEY B
SOLARI FADE B
SOLARIZATION GATE ARRAY
SY B
SRY B
SBY B
FLM B
DP-40B BOARD (SUPER VISION SUB PICTURE PROCESS)

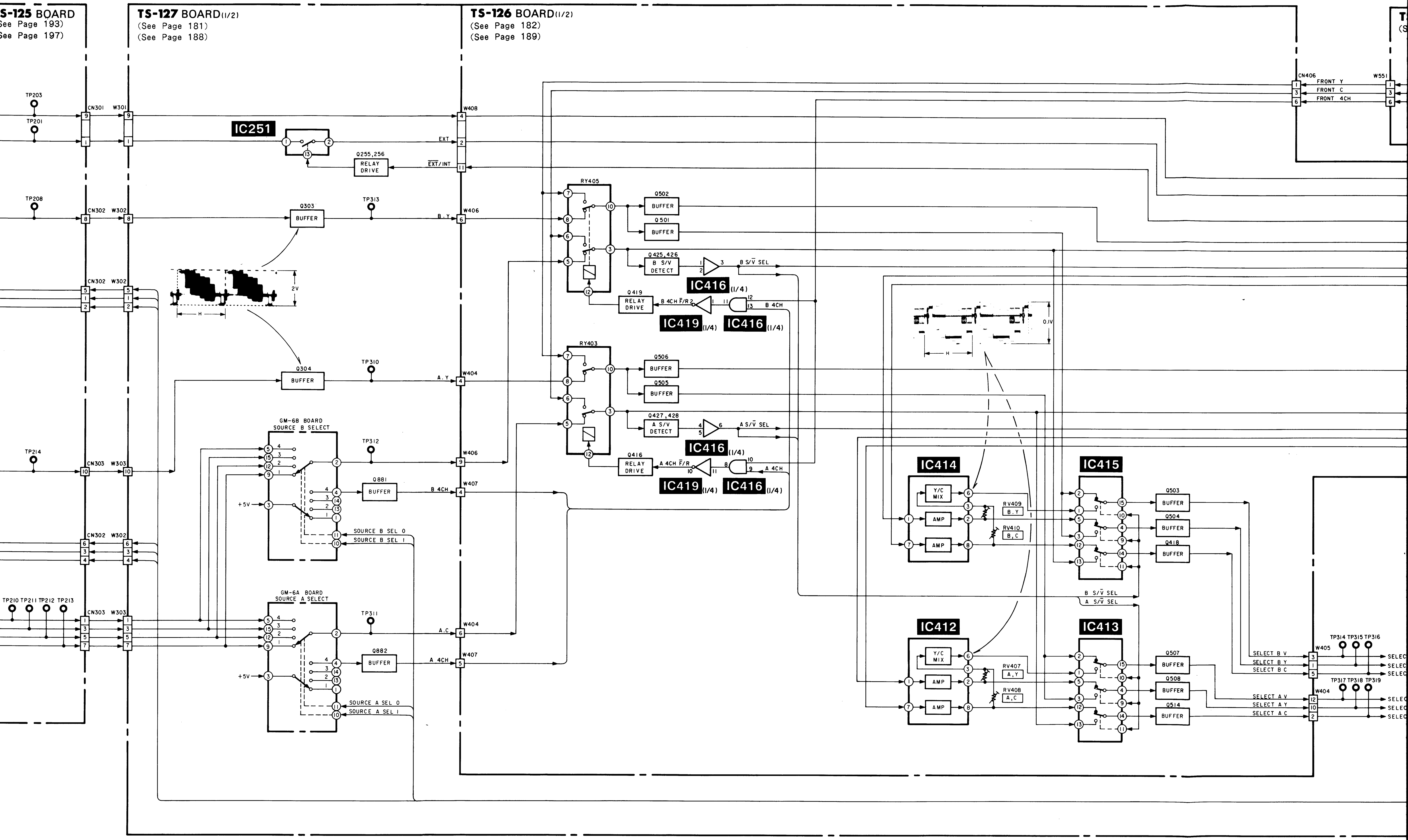

MB-45A BOARD (DIGITAL S.E.G PROCESS)
(See Page 207) (See Page 211) (See Page 217)
IC201
A/D CONV
IC202
A/D CONV
IC203
MEMORY WRITE PROCESS
IC207, IC208
IC210, IC211
Y FRAME MEMORY
CHROMA FRAME MEMORY
IC209, IC212
IC301
MEMORY READ PROCESS
IC302
D/A CONV
IC303
D/A CONV
IC304
READ SYNC SEPARATOR READ CLOCK GENERATOR
AFH
ERCK
RHD
IC104
ACC ACK DET
ACK
CIN
Y(A/D) IN
VIDEO
SVIDEO
IC204
WRITE SYNC SEPARATOR WRITE CLOCK GENERATOR
W SYNC
M CKO
IC213
MEMORY CONTROL
IC110
SOLARIZATION GATE ARRAY
IC109
IC108
D/A CONV
YA
CA
PINP KEY A
SOLARI KEY A
SOLARI FADE A
R-Y A
B-Y A
IC501
3 LINE ADD
IC502
DECODER
R-Y
B-Y
IC504
A/D CONV MPX
IC505
Y/CHROMA FRAME MEMORY
IC503
MEMORY CONTROL
IC506
D/A CONV DEMPX
SY A
SRY A
SBY A
FLM A
SUPER VISION SUB PICTURE PROCESS
(See Page 207) (See Page 211) (See Page 217) MB-45B BOARD
(DIGITAL S.E.G PROCESS)
S VIDEO
PINP KEY B
SOLARI KEY B
SOLARI FADE B
SY B
SRY B
SBY B
FLM B
PP-10 BOARD (ANALOG S.E.G PROCESS)
(See Page 157) (See Page 171) (See Page 177)
IC101 (1/3)
LPF
NORMAL
SOFT FOCUS
IC102 (1/3)
NEGA Y GENERATOR
NEGA
BACK COLOR
BCY
A CH Y
IC201 (1/3)
NEGA CHROMA GENERATOR
BCC
C.COR.C MIX
BURST ADD
A CH C
IC204
COLOR CORRECT
SOLARIZATION
COLORING
MIX LEVEL CONTROL
IC901 ~ IC907
CHROMA KEY PULSE GENERATOR
COLORING A
C KEY
HUE R
HUE B
HUE RANGE
IC806
COLOR CORRECT CHROMA ENCODER
C.COR.C
BURST
JOY R
JOY B
IC856
BACK COLOR ENCODER
BC Y
BC C
BCR
BCG
BCB
IC404
IC501
LINEAR GATE
A CH Y
B CH Y
IC601
A CH C
B CH C
LG CONT
SYNC ADD
YO A
CO A
YO AB
CO AB
YO B
CO B
SYNC
IC005
PINP B
PINP A
EXT KEY
FADER
WIPE
SOLA FADE B
SOLA FADE A
CHROMA KEY
SOLARI KEY A
SOLARI KEY B
YB
CB
IC301 (1/3)
IC302 (1/3)
IC302 (1/2)
IC305
INSERT GAIN CONTROL
INSERT GAIN
IC306 (1/3)
BCH Y
IC401 (1/3)
IC401 (1/3)
BCH C
IC118
IC125
EDIT MONITOR SUB PICTURE CHROMA ENCODER
Y MEM SUB
C MEM SUB
E FRAME
IC119
IC107, IC109
SYNC GENERATOR
SC
CLK (908FH)
BFP
SYNC
O/E
C BLK
LALT (PAL P)
RHD
RVD
EXT
GPI
FADER KEY
TS-126 BOARD (1/2)
(See Page 182) (See Page 18
SELECT AY
SELECT AC
SELECT AV
SELECT BY
SELECT BC
SELECT BV
IC411
Y/C MIX
IC410
EDIT MONITOR SUB PICTURE INSERT
IC409
Y MEM SUB
C MEM SUB
E FRAME
MAIN SUB
IC908
IC128
BURST GATE
EXT C
IC126
EXT Y GENERATOR
EXT Y
EXT KEY
EXT KEY FRM
IC905
IC909 ~
EXT KEY EDGE/SHADOW
IC014, IC015
IC016, IC018
IC004
WIPE KEY
SOFT EDGE
WIPE
W.P.G
D0~D3
IC003, IC006
IC009 ~ IC012
FADER KEY
JOY R
JOY B
HUE R
HUE B
INSERT GAIN
HUE RANGE
EXT KEY LEVEL
D/A CONV DEMPX
BCR
BCG
BCB
IC002
CONTROL SIG
OUTPUT EXPANDER
POWER (A
POWER (B
IC101
COMPARATOR
EXT KEY CRG
GPI

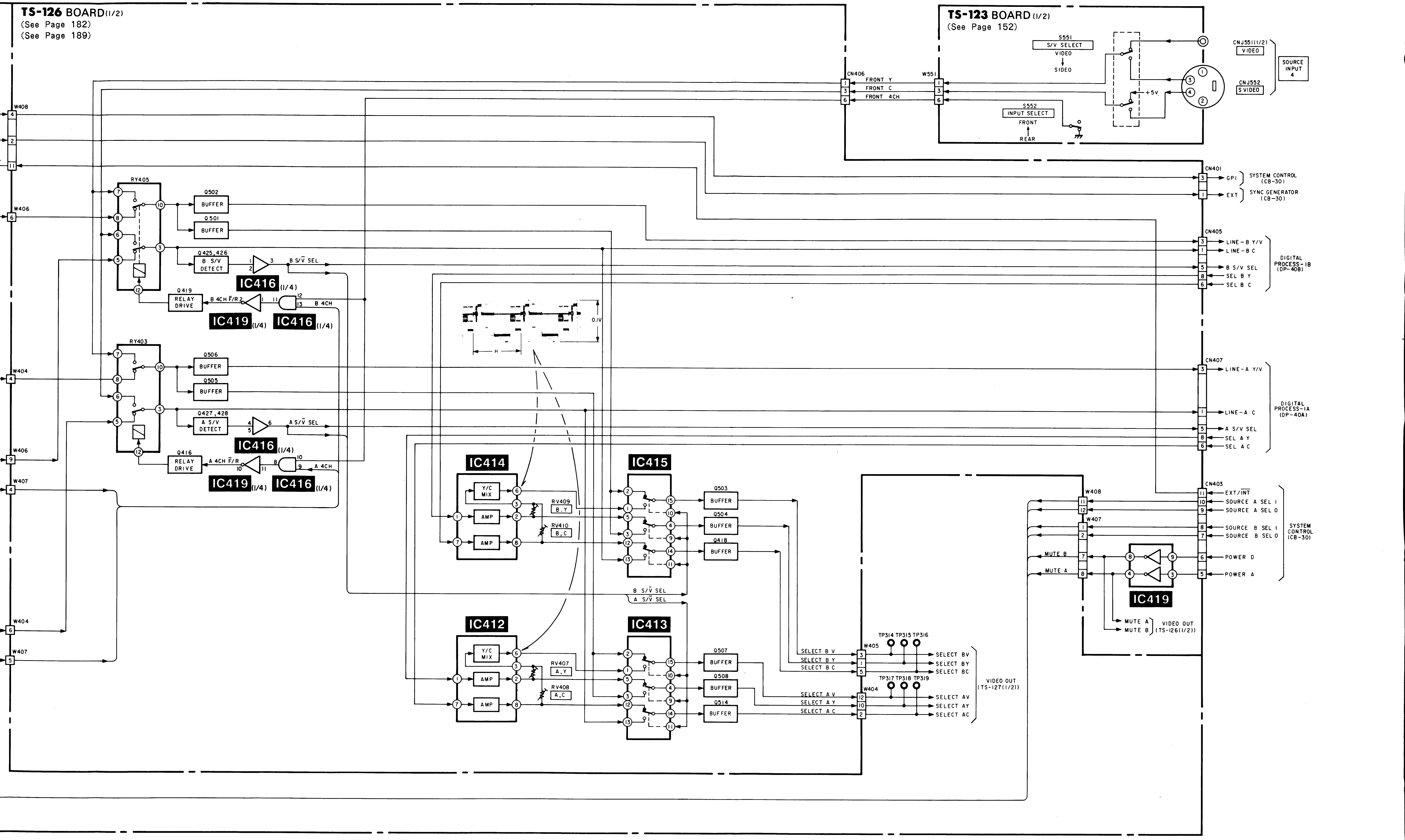

-10 BOARD (ANALOG S.E.G PROCESS)
ee Page 157) (See Page 171) (See Page 177)
TS-126 BOARD (1/2)
(See Page 182) (See Page 189)
TS-125 BOARD (1/2)
(See Page 193) (See Page 197)
TS-124 BOARD (1/2)
(See Page 181)
(See Page 196)
CB-30 BOARD
(SYSTEM CONTROL SYNC GENERATOR)
(See Page 133)
(See Page 143)
(See Page 148)
CONTROL UNIT
(See Page 263)
IC101 (1/3)
IC102 (1/3)
IC201 (1/3)
IC204
IC901 ~ IC907
IC501
IC601
IC005
IC806
IC856
IC404
IC301 (1/3)
IC302 (1/3)
IC302 (1/2)
IC305
IC306 (1/3)
IC401 (1/3)
IC118
IC125
IC119
IC107, IC109
IC310
IC308
IC405 ~ IC407
IC404
IC411
IC410
IC409
IC908
IC128
IC126
IC905, IC906
IC909 ~ IC910
IC014, IC015
IC016, IC018, IC004, IC003
IC003, IC006
IC009 ~ IC012
IC001
IC002
IC101
IC501
IC502
IC101, IC010, IC009
IC012, IC013
IC101
LPF
NORMAL
SOFT FOCUS
NEGA Y GENERATOR
NEGA
BACK COLOR
NEGA CHROMA GENERATOR
BCY
BCC
A CH Y
A CH C
B CH Y
B CH C
BCH Y
BCH C
C.COR.C MIX
BURST ADD
MIX LEVEL CONTROL
COLOR CORRECT
SOLARIZATION
COLORING
CHROMA KEY PULSE GENERATOR
COLORING A
C KEY
HUE R
HUE B
HUE RANGE
SYNC ADD
YO A
CO A
YO AB
CO AB
YO B
CO B
SYNC
LINEAR GATE
LG CONT
PINP B
PINP A
EXT KEY
FADER
WIPE
SOLA FADE B
SOLA FADE A
CHROMA KEY
C.COR.C
BURST
COLOR CORRECT CHROMA ENCODER
JOY R
JOY B
SOLARI KEY A
SOLARI KEY B
BC Y
BC C
BACK COLOR ENCODER
BCR
BCG
BCB
INSERT GAIN CONTROL
INSERT GAIN
CHROMA KEY
A
B
Y MEM SUB
C MEM SUB
EDIT MONITOR SUB PICTURE CHROMA ENCODER
E FRAME
SYNC GENERATOR
SC
CLK (908FH)
BFP
SYNC
O/E
C BLK
LALT (PAL P)
RHD
RVD
EXT
GPI
FADER KEY
SELECT AY
SELECT AC
SELECT AV
SELECT BY
SELECT BC
SELECT BV
Y/C MIX
Y/C MIX
EDIT MONITOR SUB PICTURE INSERT
MAIN
SUB
GM-6C BOARD
SELECT A
SELECT B
SUPER VISION
PROCESS OUT
NORMAL
EXT KEY
RL401
RL402
BYPASS
OPERATION
CNJ217 S VIDEO
CNJ208 (1/3) VIDEO
FS OUT A
CNJ216 S VIDEO
CNJ207 (1/2) VIDEO
FS OUT B
CNJ215 S VIDEO
CNJ207 (1/3) VIDEO
SELECT OUT A
CNJ214 S VIDEO
CNJ207 (1/3) VIDEO
SELECT OUT B
CNJ222 S VIDEO
CNJ209 (1/3) VIDEO
MONITOR OUT
CNJ221 S VIDEO
CNJ209 (1/3) VIDEO
PROCESSED OUT 1
CNJ220 S VIDEO
CNJ209 (1/3) VIDEO
PROCESSED OUT 2
CNJ219 S VIDEO
CNJ208 (1/3) VIDEO
PROCESSED OUT 3
CNJ218 S VIDEO
CNJ208 (1/3) VIDEO
PROCESSED OUT 4
Y
C
V
BURST GATE
EXT C
EXT Y GENERATOR
EXT Y
EXT KEY
EXT KEY FRM
EXT KEY EDGE/SHADOW
EXT KEY ORG
WIPE KEY
SOFT EDGE
WIPE 4 D0~D3
W.P.G
WIPE μ-COM
FADER KEY
JOY R
JOY B
HUE R
HUE B
INSERT GAIN
HUE RANGE
EXT KEY LEVEL
D/A CONV DEMPX
BCR
BCG
BCB
MAIN μ-COM
CONTROL SIG
OUTPUT EXPANDER
POWER (A)
POWER (D)
COMPARATOR
EXT KEY CRG
GPI
VR
MULTI-PLEXER
SERIAL-PARALLEL CONVERT
A/D CONV
KEY μ-COM
KEY MATRIX
OUTPUT EXPANDER
DISPLAY LED

## 4-3. VIDEO INPUT BLOCK DIAGRAM



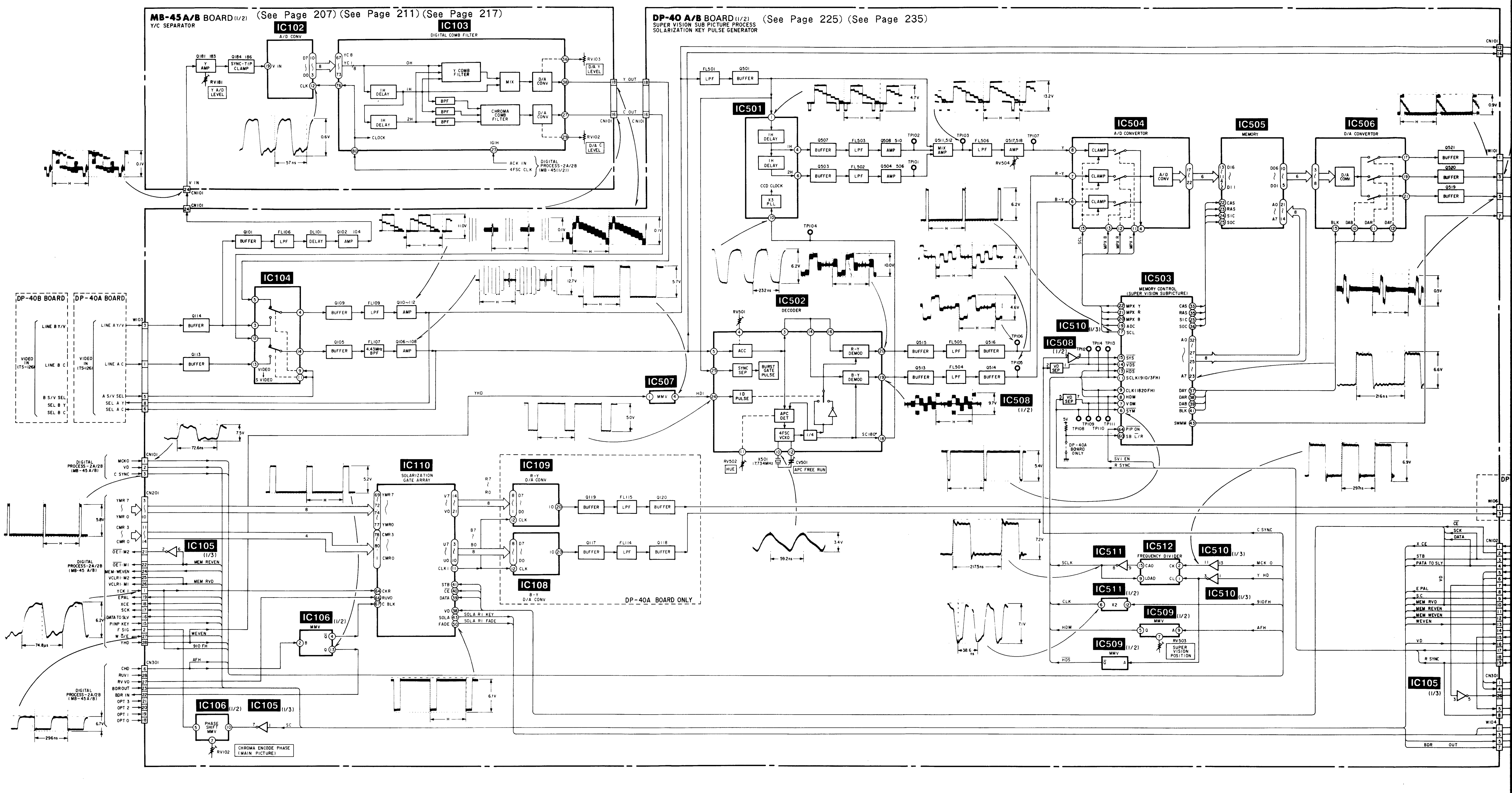
TS-124 BOARD (See Page 191) (See Page 196)
TS-125 BOARD (See Page 193) (See Page 197)
TS-127 BOARD(1/2) (See Page 181) (See Page 188)
CNJ201 GPI
CNJ205
EXT IN
SOURCE IN 4
SOURCE IN 3
SOURCE IN 2
SOURCE IN 1
VIDEO
S VIDEO
Y
C
CNJ201
CNJ206 (1/3)
CNJ211
CNJ212
CNJ213
Q201
Q202
Q203
Q204
BUFFER
S201 S/V SELECT
S202 S/V SELECT
S203 S/V SELECT
S204 S/V SELECT
V
S
+5V
IC201 SOURCE B SELECT
IC202 SOURCE B SELECT
IC203 SOURCE A SELECT
IC204 SOURCE A SELECT
Q205 BUFFER
Q206 BUFFER
B Y/V
A Y/V
INH
B MUTE
SOURCE B SEL 0
SOURCE B SEL 1
A MUTE
SOURCE A SEL 0
SOURCE A SEL 1
GPI
EXT IN
INPUT 4CH C
INPUT 3CH C
INPUT 2CH C
INPUT 1CH C
W201
W202
W203
CN301
CN302
CN303
W301
W302
W303
TP203
TP201
TP208
TP214
TP210 TP211 TP212 TP213
IC251
Q303
Q304
2V
H
GM-6B BOARD SOURCE B S
GM-6A BOARD SOURCE A S

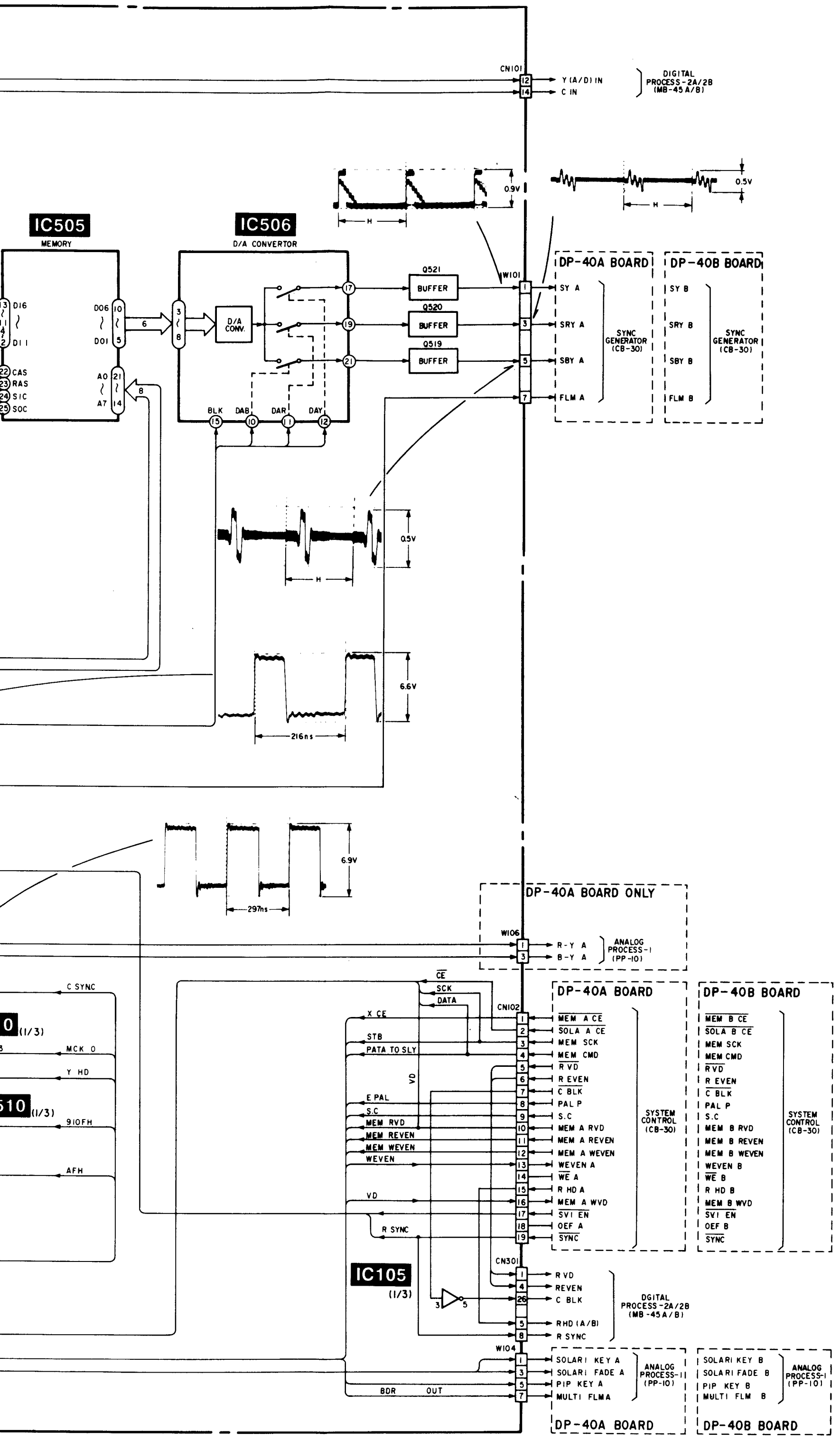

TS-125 BOARD
See Page 193)
See Page 197)
TS-127 BOARD(1/2)
(See Page 181)
(See Page 188)
TS-126 BOARD(1/2)
(See Page 182)
(See Page 189)
TP203
TP201
TP208
TP214
TP210 TP211 TP212 TP213
CN301
W301
CN302
W302
CN303
W303
IC251
Q255,256
RELAY DRIVE
EXT
EXT/INT
Q303
BUFFER
TP313
B.Y
W408
W406
2V
H
Q304
BUFFER
TP310
A.Y
W404
GM-6B BOARD
SOURCE B SELECT
TP312
W406
Q881
BUFFER
B 4CH
W407
+5V
SOURCE B SEL 0
SOURCE B SEL 1
GM-6A BOARD
SOURCE A SELECT
TP311
A.C
Q882
BUFFER
A 4CH
SOURCE A SEL 0
SOURCE A SEL 1
RY405
Q502
BUFFER
Q501
BUFFER
Q425,426
B S/V DETECT
B S/V̄ SEL
IC416 (1/4)
Q419
RELAY DRIVE
B 4CH F̄/R
IC419 (1/4)
IC416 (1/4)
B 4CH
RY403
Q506
BUFFER
Q505
BUFFER
Q427,428
A S/V DETECT
A S/V̄ SEL
IC416 (1/4)
Q416
RELAY DRIVE
A 4CH F̄/R
IC419 (1/4)
IC416 (1/4)
A 4CH
CN406
FRONT Y
FRONT C
FRONT 4CH
W551
0.1V
H
IC414
Y/C MIX
AMP
AMP
RV409
B.Y
RV410
B.C
IC415
Q503
BUFFER
Q504
BUFFER
Q418
BUFFER
B S/V̄ SEL
A S/V̄ SEL
IC412
Y/C MIX
AMP
AMP
RV407
A.Y
RV408
A.C
IC413
Q507
BUFFER
Q508
BUFFER
Q514
BUFFER
TP314 TP315 TP316
W405
SELECT B V
SELECT B Y
SELECT B C
TP317 TP318 TP319
W404
SELECT A V
SELECT A Y
SELECT A C



TS-126 BOARD(1/2)
(See Page 182)
(See Page 189)
TS-123 BOARD(1/2)
(See Page 152)
S551
S/V SELECT
VIDEO
SIDEO
S552
INPUT SELECT
FRONT
REAR
+5V
CNJ551(1/2)
VIDEO
CNJ552
S VIDEO
SOURCE INPUT 4
CN406
FRONT Y
FRONT C
FRONT 4CH
W551
W408
W406
W404
W407
RY405
RY403
Q502
BUFFER
Q501
BUFFER
Q425,426
B S/V DETECT
B S/V̄ SEL
IC416 (1/4)
Q419
RELAY DRIVE
B 4CH F̄/R
B 4CH
IC419 (1/4)
IC416 (1/4)
Q506
BUFFER
Q505
BUFFER
Q427,428
A S/V DETECT
A S/V̄ SEL
Q416
RELAY DRIVE
A 4CH F̄/R
A 4CH
0.1V
H
IC414
Y/C MIX
AMP
AMP
RV409
B,Y
RV410
B,C
IC412
RV407
A,Y
RV408
A,C
IC415
IC413
Q503
BUFFER
Q504
BUFFER
Q418
BUFFER
Q507
BUFFER
Q508
BUFFER
Q514
BUFFER
B S/V̄ SEL
A S/V̄ SEL
SELECT B V
SELECT B Y
SELECT B C
SELECT A V
SELECT A Y
SELECT A C
W405
W404
TP314 TP315 TP316
TP317 TP318 TP319
SELECT BV
SELECT BY
SELECT BC
SELECT AV
SELECT AY
SELECT AC
VIDEO OUT (TS-127(1/2))
CN401
GPI
EXT
SYSTEM CONTROL (CB-30)
SYNC GENERATOR (CB-30)
CN405
LINE-B Y/V
LINE-B C
B S/V SEL
SEL B Y
SEL B C
DIGITAL PROCESS-1B (DP-40B)
CN407
LINE-A Y/V
LINE-A C
A S/V SEL
SEL A Y
SEL A C
DIGITAL PROCESS-1A (DP-40A)
CN403
EXT/ĪNT
SOURCE A SEL 1
SOURCE A SEL 0
SOURCE B SEL 1
SOURCE B SEL 0
POWER D
POWER A
SYSTEM CONTROL (CB-30)
MUTE B
MUTE A
IC419
MUTE A
MUTE B
VIDEO OUT (TS-126(1/2))

# 4-4. DIGITAL PROCESS-1 BLOCK DIAGRAM


MB-45 A/B BOARD (1/2)
Y/C SEPARATOR
(See Page 207) (See Page 211) (See Page 217)
IC102
A/D CONV
IC103
DIGITAL COMB FILTER
Y AMP
SYNC-TIP CLAMP
RV181
Y A/D LEVEL
1H DELAY
Y COMB FILTER
MIX
D/A CONV
BPF
CHROMA COMB FILTER
RV103
D/A Y LEVEL
RV102
D/A C LEVEL
CLOCK
ACK IN
4FSC CLK
DIGITAL PROCESS-2A/2B (MB-45(1/2))
Y OUT
C OUT
CN101
V IN
DP-40 A/B BOARD (1/2)
SUPER VISION SUB PICTURE PROCESS
SOLARIZATION KEY PULSE GENERATOR
(See Page 225) (See Page 235)
FL501
LPF
Q501
BUFFER
IC501
1H DELAY
CCD CLOCK
X3 PLL
BUFFER
LPF
AMP
TP101
TP102
TP103
MIX AMP
RV504
TP107
IC504
A/D CONVERTOR
CLAMP
A/D CONV
IC505
MEMORY
IC506
D/A CONVERTOR
D/A CONV
Q521
Q520
Q519
BUFFER
IC503
MEMORY CONTROL
(SUPER VISION SUBPICTURE)
IC502
DECODER
ACC
SYNC SEP
BURST GATE PULSE
ID PULSE
APC DET
4FSC VCXO
1/4
R-Y DEMOD
B-Y DEMOD
RV501
RV502
HUE
X501
17.734MHz
CV501
APC FREE RUN
IC507
MMV
IC508
(1/2)
VD SEP
IC510
(1/3)
TP104
TP105
TP106
TP108
TP109
TP110
TP111
TP112
TP113
TP114
DP-40A BOARD ONLY
IC511
IC512
FREQUENCY DIVIDER
X2
IC509
(1/2)
MMV
RV503
SUPER VISION POSITION
IC105
(1/3)
DP-40B BOARD
DP-40A BOARD
LINE B Y/V
LINE B C
VIDEO IN (TS-126)
B S/V SEL
SEL B Y
SEL B C
LINE A Y/V
LINE A C
A S/V SEL
SEL A Y
SEL A C
W103
Q114
Q113
BUFFER
IC104
S VIDEO
VIDEO
Q109
BUFFER
FL109
LPF
Q110~112
AMP
Q105
FL107
4.43MHz BPF
Q106~108
Q101
FL106
DL101
DELAY
Q102 104
YHD
HDI
DIGITAL PROCESS-2A/2B (MB-45A/B)
MCKO
VD
C SYNC
CN201
YMR 7
YMR 0
CMR 3
CMR 0
OE1-M2
OE1-M1
MEM-WEVEN
VCLR1-M2
VCLR1-M1
YCK 1
E PAL
XCE
SCK
DATA TO SLV
PINP KEY
F SIG
W O/E
YHD
CN301
CHD
RUV1
RV VO
BDROUT
BDR IN
OPT 3
OPT 2
OPT 1
OPT 0
IC110
SOLARIZATION GATE ARRAY
IC109
R-Y D/A CONV
IC108
B-Y D/A CONV
Q119
FL115
Q120
Q117
FL114
Q118
IC106
(1/2)
PHASE SHIFT MMV
RV102
CHROMA ENCODE PHASE (MAIN PICTURE)
IC105
(1/3)
MEM REVEN
MEM RVD
WEVEN
910 FH
AFH
SOLA R1 KEY
SOLA R1 FADE
STB
CE
DATA
SOLA
FADE
CKR
RUVO
C BLK
C SYNC
SCLK
CLK
HDM
HDS
MCK O
Y HD
910FH
AFH
CN102
CN302
W104
BDR OUT
W106
W101
0.9V
0.6V
0.1V
57ns
4.7V
13.2V
6.2V
11.0V
0.1V
12.7V
5.7V
232ns
10.0V
4.1V
4.6V
9.7V
5.0V
7.5V
72.6ns
5.2V
5.8V
6.2V
74.8μs
6.7V
296ns
6.1V
3.4V
59.2ns
5.4V
7.2V
217.5ns
7.1V
38.6ns
6.9V
297ns
0.5V
6.6V
216ns


IC505
MEMORY
IC506
D/A CONVERTOR
D/A CONV.
BUFFER
Q521
Q520
Q519
BLK
DAB
DAR
DAY
CN101
Y (A/D) IN
C IN
DIGITAL PROCESS-2A/2B (MB-45A/B)
0.9V
0.5V
H
W101
DP-40A BOARD
DP-40B BOARD
SY A
SRY A
SBY A
FLM A
SY B
SRY B
SBY B
FLM B
SYNC GENERATOR (CB-30)
6.6V
216ns
6.9V
297ns
DP-40A BOARD ONLY
W106
R-Y A
B-Y A
ANALOG PROCESS-1 (PP-10)
C SYNC
MCK 0
Y HD
910FH
AFH
(1/3)
CE
SCK
DATA
X CE
STB
PATA TO SLY
VD
E PAL
S.C
MEM RVD
MEM REVEN
MEM WEVEN
WEVEN
R SYNC
CN102
MEM A CE
SOLA A CE
MEM SCK
MEM CMD
R VD
R EVEN
C BLK
PAL P
MEM A RVD
MEM A REVEN
MEM A WEVEN
WEVEN A
WE A
R HD A
MEM A WVD
SVI EN
OEF A
SYNC
MEM B CE
SOLA B CE
MEM B RVD
MEM B REVEN
MEM B WEVEN
WEVEN B
WE B
R HD B
MEM B WVD
OEF B
SYSTEM CONTROL (CB-30)
IC105
(1/3)
CN301
REVEN
RHD (A/B)
R SYNC
DGITAL PROCESS-2A/2B (MB-45A/B)
W104
SOLARI KEY A
SOLARI FADE A
PIP KEY A
MULTI FLMA
SOLARI KEY B
SOLARI FADE B
PIP KEY B
MULTI FLM B
BDR OUT

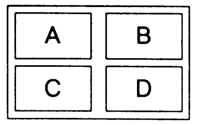
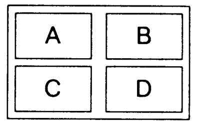
## 4-5. SUPER VISION MEMORY CONTROLLER PIN FUNCTION (IC503 M50541FP ON DP-40 BOARD)

| Pin No. | Signal Name | I/O | Function |
|---|---|---|---|
| 1 | $\overline{\text{RST}}$ | I | Reset signal input. Not used. |
| 3 | MCL | O | Parent picture video signal clamp pulse output. Synchronized with falling edge of $\overline{\text{SYM}}$ input. ("H" pulse of approx. 4 $\mu$sec width)<br>Not used. |
| 4 | CCL | O | MCL inversion signal output. Not used. |
| 5 | $\overline{\text{MVD}}$ | O | Interruption signal output for system controller. "L" pulse created from $\overline{\text{VDM}}$ input signal synchronized with internal clock.<br>Not used. |
| 6 | $\overline{\text{SYM}}$ | I | Video memory read side composite sync signal input. Used to discriminate odd and even field and to generate clamp pulse (MCL and CCL). |
| 7 | $\overline{\text{VDM}}$ | I | Video memory read side vertical sync signal input.<br>Used to generate memory read timing. |
| 8 | $\overline{\text{HDM}}$ | I | Video memory read side horizontal sync signal input.<br>Used to generate memory read timing. |
| 9 | CLK | I | Memory controller clock input. 1820 fH (approx. 28 MHz) |
| 10 | Vss | | GND |
| 11 | SCLK | I | Clock input for memory write. 910/3 fH (approx. 4.7 MHz) |
| 12 | $\overline{\text{VCOE}}$ | O | VCO enable signal output for memory write clock generation. Not used. |
| 13 | $\overline{\text{HDS}}$ | I | Horizontal sync signal input separated from child picture video signal.<br>Used for memory write timing generation. |
| 14 | $\overline{\text{VDS}}$ | I | Vertical sync signal input separated from child picture video signal.<br>Used for memory write timing generation. |
| 15 | $\overline{\text{SYS}}$ | I | Composite sync signal input separated from child picture video signal.<br>Used to discriminate odd and even field and to generate clamp pulse (SCL). |
| 16 | $\overline{\text{SVD}}$ | O | Interruption signal output for system controller. "L" pulse created from $\overline{\text{VDS}}$ input signal synchronized with internal clock. Not used. |
| 17 | SCL | O | Clamp pulse output for A-D converter. Synchronized with falling edge of $\overline{\text{SYS}}$ input. ("H" pulse of approx. 3.2 $\mu$sec width) |
| 19 | ADC | O | A-D converter conversion clock output |
| 20 | MPXB | O | A-D converter input select signal output. "H" when B–Y signal selected. |
| 21 | MPXR | O | A-D converter input conversion signal output. "H" when R–Y signal selected. |
| 22 | MPXY | O | A-D converter input select signal output. "H" when Y signal selected. |
| 23 | SIC | O | Clock output for memory write. |
| 24 | A7 | O | Command and address output to memory. |
| 25 | A6 | O | |
| 27<br>≀<br>32 | A5<br>≀<br>A0 | O | |
| 33 | CAS | O | Column address strobe signal output to memory. |
| 35 | RAS | O | Low address strobe signal output to memory. |
| 36 | SOC | O | Clock output for memory read out. |
| 37 | DAY | O | D-A converter conversion clock output for Y signal. |
| 38 | DAR | O | D-A converter conversion clock output for R–Y signal. |
| 40 | DAB | O | D-A converter conversion clock output for B–Y signal. |
| 41 | $\overline{\text{BLK}}$ | O | BLK inversion signal output |
| 42 | VDD | O | 5V power |
| 43 | SWMM | O | Timing signal output to insert child picture video signal into parent picture video signal. "H" in child picture timing. |

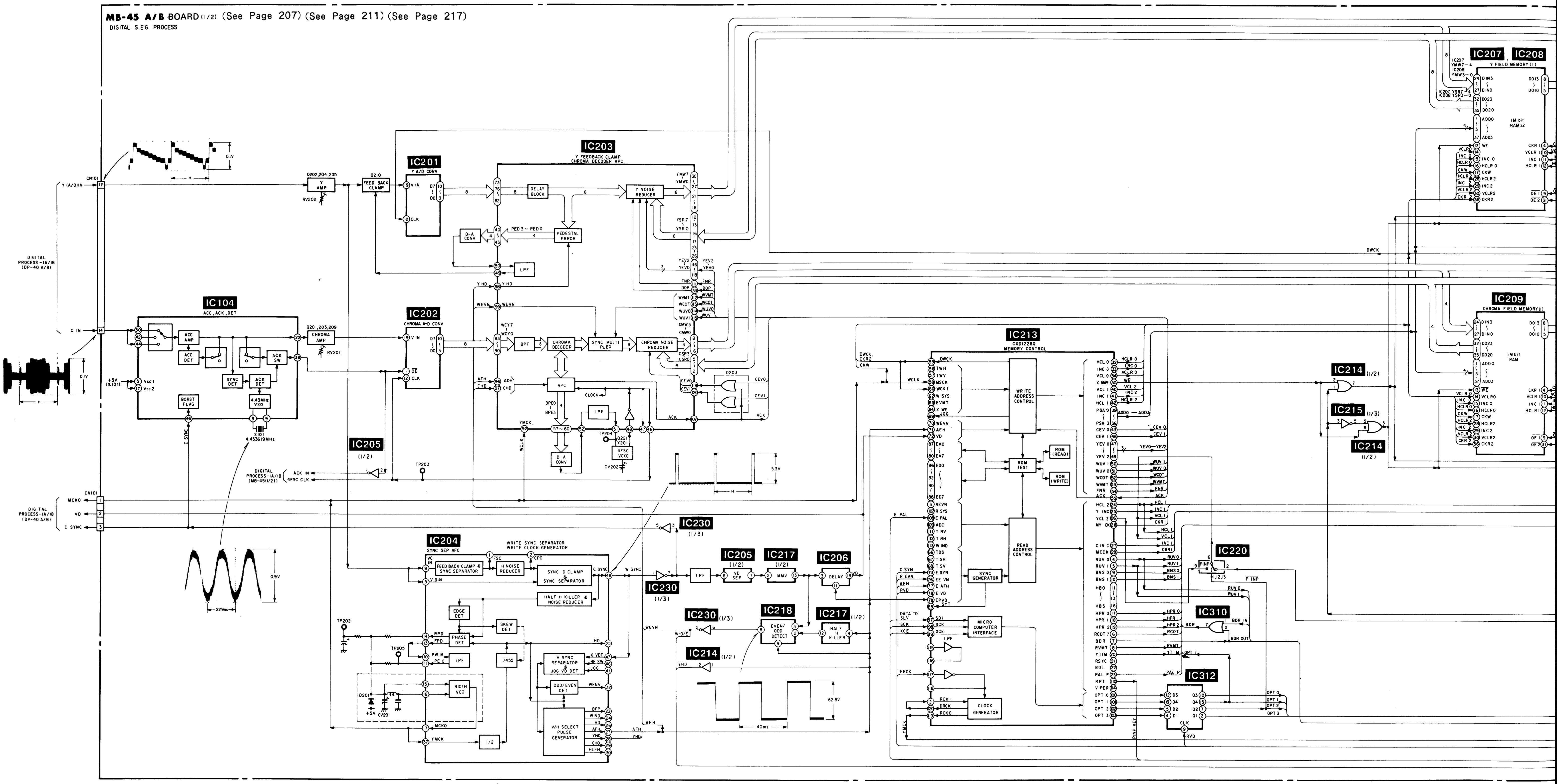
| Pin No. | Signal Name | I/O | |
|---|---|---|---|
| 44 | WG | I | Frame display |
| 45 | TEST D | I | Test input term<br>can be set to of<br>"H"···Cor<br>"H"···Cor<br>Fixed at "H" le |
| 46 | TEST C | I | |
| 47 | TEST B | I | |
| 48 | TEST A | I | |
| 49 | TEST 4 | I | Test input term |
| 51 | TEST 3 | I | |
| 52 | TEST 2 | I | |
| 53 | TEST 1 | I | |
| 54 | $\overline{\text{FCNT}}$ | I | Field/frame dis<br>Note: Valid or<br>Fixed at "H" le |
| 55 | $\overline{\text{FSEL}}$ | I | Control signal<br>Fixed at "H" le |
| 56 | I SYN | I | Select signal in<br>SB $\overline{\text{L}}$/R and ST<br>Fixed at "H" le |
| 57 | $\overline{\text{NTSC}}$/PAL | I | NTSC/PAL sel<br>Fixed at "H" le |
| 59 | $\overline{\text{STIL}}$ | I | Motion/still pic<br>Fixed at "H" le |
| 60 | SB $\overline{\text{L}}$/R | I | Child picture d<br>position in fou<br>SB $\overline{\text{T}}$/B<br>L<br>L<br>H<br>H<br>Display positio<br>SB $\overline{\text{T}}$/B "H<br>Display positio<br>SB $\overline{\text{T}}$/B "H |
| 61 | SB $\overline{\text{T}}$/B | I | |
| 62 | SGL/$\overline{\text{MUL}}$ | I | One/four pictu<br>Fixed at "H" le |
| 63 | $\overline{\text{WGEN}}$ | I | Frame display<br>Fixed at "L" le |
| 64 | $\overline{\text{PIP ON}}$ | I | Child picture d<br>"L"···Wit<br>"H"···Wit<br>"L" when mon<br>"H" when mon |

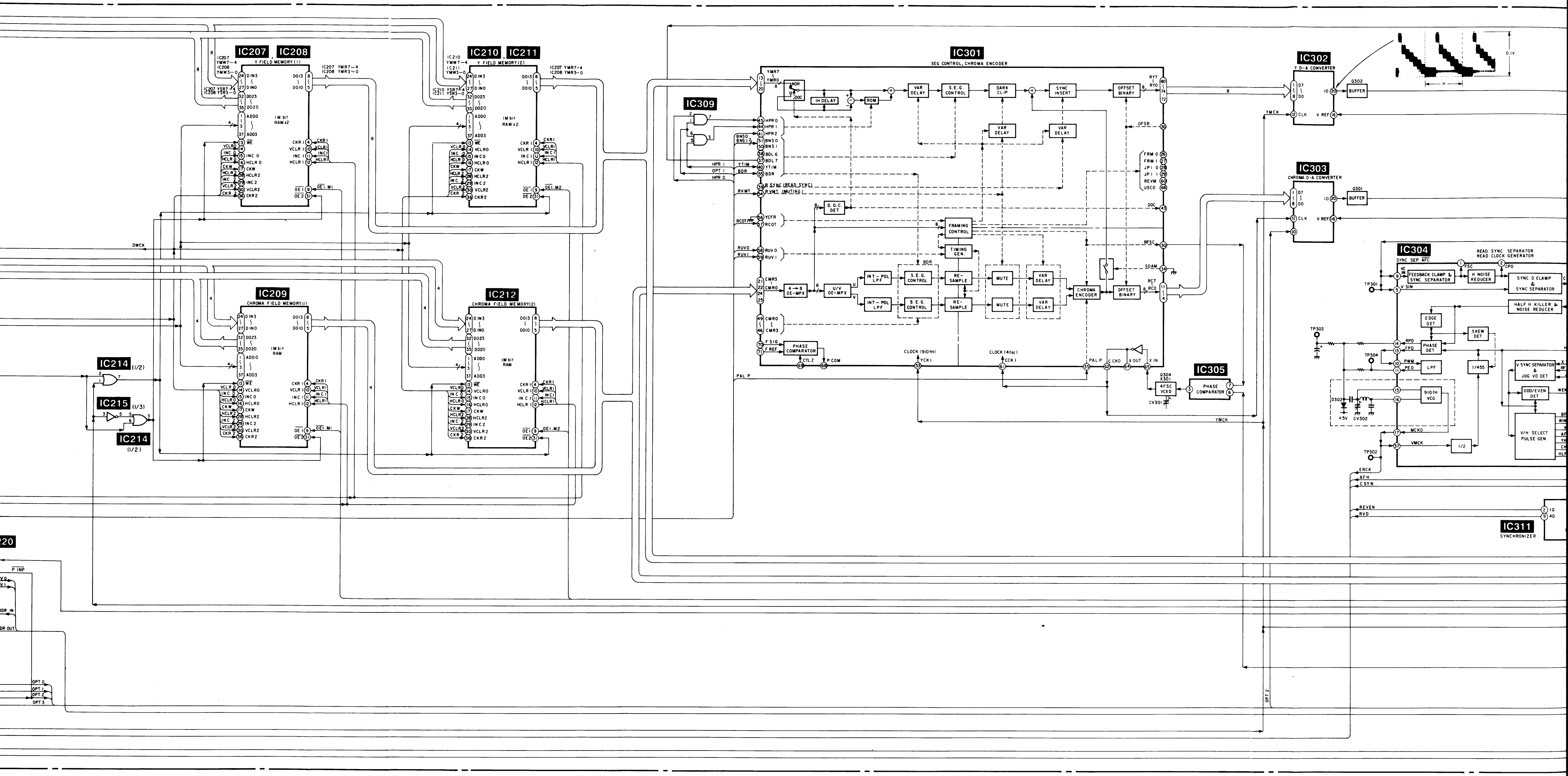
## 4-5. SUPER VISION MEMORY CONTROLLER PIN FUNCTION (IC503 M50541FP ON DP-40 BOARD)

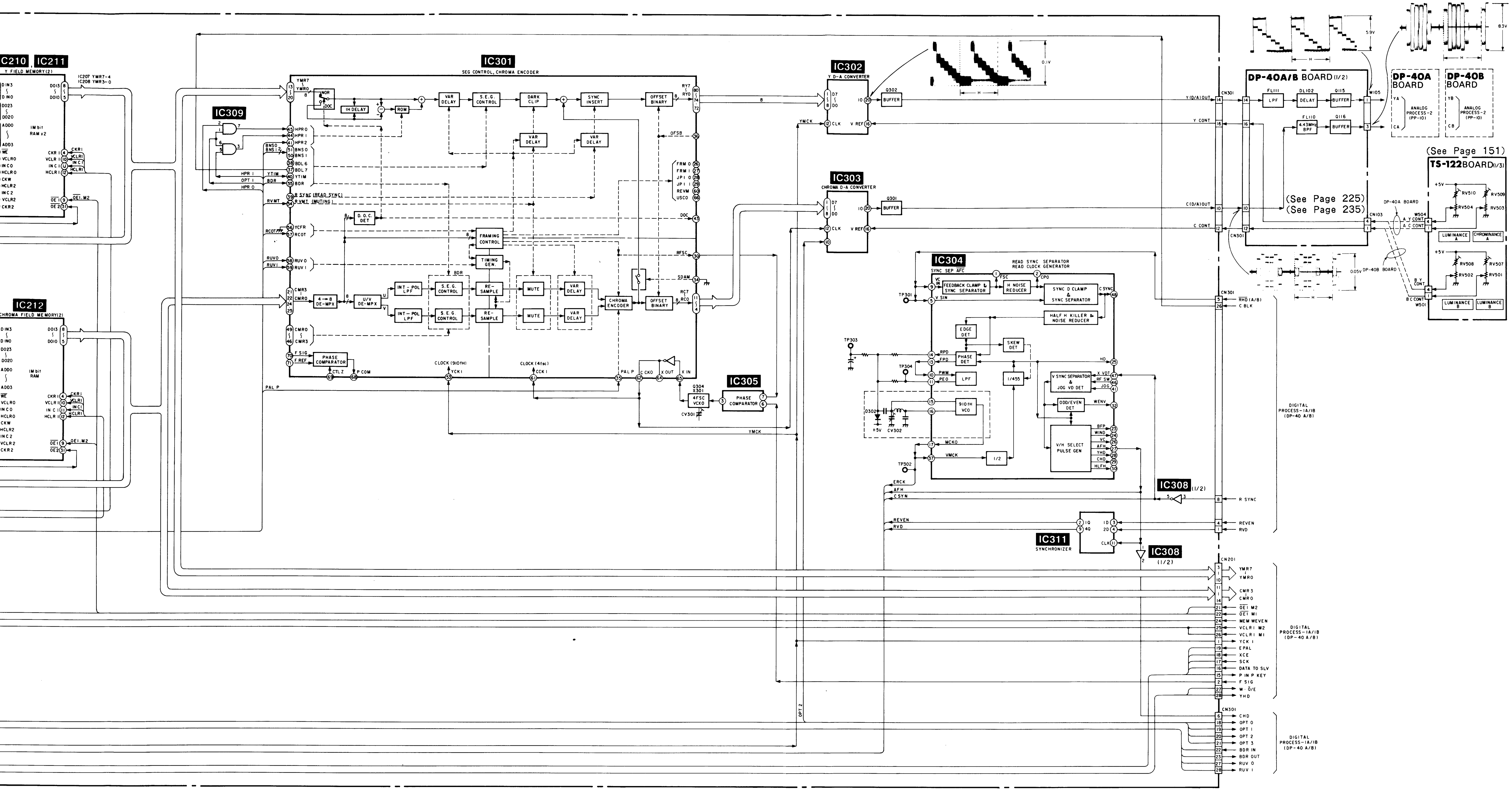
| Pin No. | Signal Name | I/O | Function |
|---|---|---|---|
| 1 | $\overline{\text{RST}}$ | I | Reset signal input. Not used. |
| 3 | MCL | O | Parent picture video signal clamp pulse output. Synchronized with falling edge of $\overline{\text{SYM}}$ input. ("H" pulse of approx. 4 μsec width)<br>Not used. |
| 4 | CCL | O | MCL inversion signal output. Not used. |
| 5 | $\overline{\text{MVD}}$ | O | Interruption signal output for system controller. "L" pulse created from $\overline{\text{VDM}}$ input signal synchronized with internal clock.<br>Not used. |
| 6 | $\overline{\text{SYM}}$ | I | Video memory read side composite sync signal input. Used to discriminate odd and even field and to generate clamp pulse (MCL and CCL). |
| 7 | $\overline{\text{VDM}}$ | I | Video memory read side vertical sync signal input.<br>Used to generate memory read timing. |
| 8 | $\overline{\text{HDM}}$ | I | Video memory read side horizontal sync signal input.<br>Used to generate memory read timing. |
| 9 | CLK | I | Memory controller clock input. 1820 fH (approx. 28 MHz) |
| 10 | Vss | | GND |
| 11 | SCLK | I | Clock input for memory write. 910/3 fH (approx. 4.7 MHz) |
| 12 | $\overline{\text{VCOE}}$ | O | VCO enable signal output for memory write clock generation. Not used. |
| 13 | $\overline{\text{HDS}}$ | I | Horizontal sync signal input separated from child picture video signal.<br>Used for memory write timing generation. |
| 14 | $\overline{\text{VDS}}$ | I | Vertical sync signal input separated from child picture video signal.<br>Used for memory write timing generation. |
| 15 | $\overline{\text{SYS}}$ | I | Composite sync signal input separated from child picture video signal.<br>Used to discriminate odd and even field and to generate clamp pulse (SCL). |
| 16 | $\overline{\text{SVD}}$ | O | Interruption signal output for system controller. "L" pulse created from $\overline{\text{VDS}}$ input signal synchronized with internal clock. Not used. |
| 17 | SCL | O | Clamp pulse output for A-D converter. Synchronized with falling edge of $\overline{\text{SYS}}$ input.<br>("H" pulse of approx. 3.2 μsec width) |
| 19 | ADC | O | A-D converter conversion clock output |
| 20 | MPXB | O | A-D converter input select signal output. "H" when B–Y signal selected. |
| 21 | MPXR | O | A-D converter input conversion signal output. "H" when R–Y signal selected. |
| 22 | MPXY | O | A-D converter input select signal output. "H" when Y signal selected. |
| 23 | SIC | O | Clock output for memory write. |
| 24 | A7 | O | Command and address output to memory. |
| 25 | A6 | O | |
| 27<br>≀<br>32 | A5<br>≀<br>A0 | O | |
| 33 | $\overline{\text{CAS}}$ | O | Column address strobe signal output to memory. |
| 35 | $\overline{\text{RAS}}$ | O | Low address strobe signal output to memory. |
| 36 | SOC | O | Clock output for memory read out. |
| 37 | DAY | O | D-A converter conversion clock output for Y signal. |
| 38 | DAR | O | D-A converter conversion clock output for R–Y signal. |
| 40 | DAB | O | D-A converter conversion clock output for B–Y signal. |
| 41 | $\overline{\text{BLK}}$ | O | BLK inversion signal output |
| 42 | VDD | O | 5V power |
| 43 | SWMM | O | Timing signal output to insert child picture video signal into parent picture video signal.<br>"H" in child picture timing. |

<table>
<tr><th>Pin No.</th><th>Signal Name</th><th>I/O</th><th>Function</th></tr>
<tr><td>44</td><td>WG</td><td>I</td><td>Frame display timing signal output. Not used.</td></tr>
<tr><td>45</td><td>TEST D</td><td>I</td><td rowspan="4">Test input terminal. Child pictures A, B, C and D can be set to off in four pictures display mode.<br>"H"···Corresponding child picture can be displayed.<br>"H"···Corresponding child picture can be set to off.<br>Fixed at "H" level.<br> </td></tr>
<tr><td>46</td><td>TEST C</td><td>I</td></tr>
<tr><td>47</td><td>TEST B</td><td>I</td></tr>
<tr><td>48</td><td>TEST A</td><td>I</td></tr>
<tr><td>49</td><td>TEST 4</td><td>I</td><td rowspan="5">Test input terminal. Fixed at "H" level.</td></tr>
<tr><td>51</td><td>TEST 3</td><td>I</td></tr>
<tr><td>52</td><td>TEST 2</td><td>I</td></tr>
<tr><td>53</td><td>TEST 1</td><td>I</td></tr>
<tr><td>54</td><td>$\overline{\text{FCNT}}$</td><td>I</td><td>Field/frame display select control signal input.<br>Note: Valid only when $\overline{\text{FSEL}}$ input is "L".<br>Fixed at "H" level (frame display).</td></tr>
<tr><td>55</td><td>$\overline{\text{FSEL}}$</td><td>I</td><td>Control signal input performing either automatic field/frame display or $\overline{\text{FSEL}}$.<br>Fixed at "H" level (automatic selection).</td></tr>
<tr><td>56</td><td>I SYN</td><td>I</td><td>Select signal input determining synchronization of $\overline{\text{PIP ON}}$, $\overline{\text{WGEN}}$, SGL/$\overline{\text{MUL}}$, SB $\overline{\text{T}}$/B, SB $\overline{\text{L}}$/R and $\overline{\text{STIL}}$ with vertical sync signal.<br>Fixed at "H" level (synchronized with vertical sync signal).</td></tr>
<tr><td>57</td><td>$\overline{\text{NTSC}}$/PAL</td><td>I</td><td>NTSC/PAL select input.<br>Fixed at "H" level (PAL).</td></tr>
<tr><td>59</td><td>$\overline{\text{STIL}}$</td><td>I</td><td>Motion/still picture select input.<br>Fixed at "H" level (motion picture display).</td></tr>
<tr><td>60</td><td>SB $\overline{\text{L}}$/R</td><td>I</td><td rowspan="2">Child picture display position select input in one picture mode or motion picture display position in four picture mode.
<table>
<tr><th>SB $\overline{\text{T}}$/B</th><th>SB $\overline{\text{L}}$/B</th><th>Child picture or motion picture display position</th></tr>
<tr><td>L</td><td>L</td><td>A</td></tr>
<tr><td>L</td><td>H</td><td>B</td></tr>
<tr><td>H</td><td>L</td><td>C</td></tr>
<tr><td>H</td><td>H</td><td>D</td></tr>
</table>
 <br>Display position is set C in LINE A side (DP-40 A board).<br>SB $\overline{\text{T}}$/B "H", SB $\overline{\text{L}}$/R "L"<br>Display position is set D in LINE B side (DP-40 B board).<br>SB $\overline{\text{T}}$/B "H", SB $\overline{\text{L}}$/R "H</td></tr>
<tr><td>61</td><td>SB $\overline{\text{T}}$/B</td><td>I</td></tr>
<tr><td>62</td><td>SGL/$\overline{\text{MUL}}$</td><td>I</td><td>One/four picture display select signal input.<br>Fixed at "H" level (one picture mode).</td></tr>
<tr><td>63</td><td>$\overline{\text{WGEN}}$</td><td>I</td><td>Frame display ON/OFF control signal input in the vicinity of child picture.<br>Fixed at "L" level (with frame).</td></tr>
<tr><td>64</td><td>$\overline{\text{PIP ON}}$</td><td>I</td><td>Child picture display ON/OFF control signal input.<br>"L"···With picture display.<br>"H"···Without picture display.<br>"L" when monitor selection is supervision.<br>"H" when monitor selection is not supervision.</td></tr>
</table>

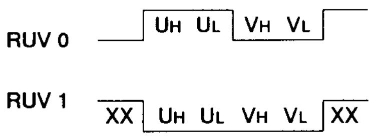
# 4-6. DIGITAL PROCESS-2 BLOCK DIAGRAM

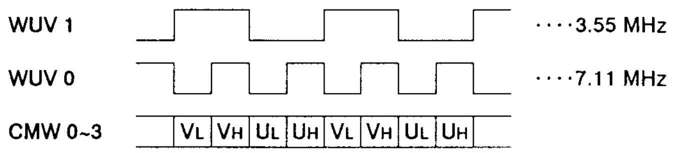

MB-45 A/B BOARD (1/2) (See Page 207) (See Page 211) (See Page 217)
DIGITAL S.E.G. PROCESS
Y (A/D)IN
C IN
CN101
DIGITAL PROCESS-1A/1B (DP-40 A/B)
Y AMP
RV202
FEED BACK CLAMP
IC201
Y A/D CONV
IC203
Y FEEDBACK CLAMP CHROMA DECODER APC
DELAY BLOCK
Y NOISE REDUCER
PEDESTAL ERROR
D-A CONV
LPF
IC104
ACC, ACK, DET
ACC AMP
ACC DET
SYNC DET
ACK DET
ACK SW
BURST FLAG
4.43MHz VXO
X101 4.433619MHz
CHROMA AMP
RV201
IC202
CHROMA A-D CONV
BPF
CHROMA DECODER
SYNC MULTI PLEX
CHROMA NOISE REDUCER
APC
D203
4FSC VCXO
CV202
TP204
IC205 (1/2)
TP203
DIGITAL PROCESS-1A/1B (MB-45(1/2))
ACK IN
4FSC CLK
MCKO
VD
C SYNC
IC204
SYNC SEP AFC
FEED BACK CLAMP & SYNC SEPARATOR
H NOISE REDUCER
SYNC D CLAMP & SYNC SEPARATOR
WRITE SYNC SEPARATOR WRITE CLOCK GENERATOR
HALF H KILLER & NOISE REDUCER
EDGE DET
PHASE DET
SKEW DET
1/455
V SYNC SEPARATOR & JOG VD DET
ODD/EVEN DET
V/H SELECT PULSE GENERATOR
910fH VCO
D201
CV201
TP202
TP205
1/2
IC230 (1/3)
IC205 (1/2)
VD SEP
IC217 (1/2)
MMV
IC206
DELAY
IC218
EVEN/ODD DETECT
HALF H KILLER
IC214 (1/2)
40ms
62.8V
5.3V
0.1V
0.9V
229ns
IC213
CXD1228Q
MEMORY CONTROL
WRITE ADDRESS CONTROL
ROM TEST
ROM (READ)
ROM (WRITE)
READ ADDRESS CONTROL
SYNC GENERATOR
MICRO COMPUTER INTERFACE
CLOCK GENERATOR
IC207 IC208
Y FIELD MEMORY (1)
1M bit RAM x2
IC209
CHROMA FIELD MEMORY (1)
1M bit RAM
IC214 (1/2)
IC215 (1/3)
IC220
IC310
IC312
DWCK
P INP

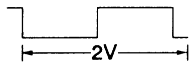

IC207 , IC208
Y FIELD MEMORY (1)
IC210 , IC211
Y FIELD MEMORY (2)
IC209
CHROMA FIELD MEMORY (1)
IC212
CHROMA FIELD MEMORY (2)
1M bit RAM x2
1M bit RAM
IC214 (1/2)
IC215 (1/3)
IC214 (1/2)
DWCK
IC309
HPR 1
OPT 1
HPR 0
RVMT
RCOT
RUV0
RUV1
PAL P
IC301
SEG CONTROL, CHROMA ENCODER
NOR
DOC
1H DELAY
ROM
VAR DELAY
S.E.G. CONTROL
DARK CLIP
SYNC INSERT
OFFSET BINARY
D.O.C. DET
FRAMING CONTROL
TIMING GEN.
4→8 DE-MPX
U/V DE-MPX
INT-POL LPF
RE-SAMPLE
MUTE
CHROMA ENCODER
PHASE COMPARATOR
CLOCK (910fH)
CLOCK (4fsc)
4FSC VCXO
X301
CV301
IC305
PHASE COMPARATOR
IC302
Y D-A CONVERTER
Q302
BUFFER
0.1V
H
IC303
CHROMA D-A CONVERTER
Q301
BUFFER
YMCK
IC304
SYNC SEP AFC
READ SYNC SEPARATOR
READ CLOCK GENERATOR
FEEDBACK CLAMP & SYNC SEPARATOR
H NOISE REDUCER
SYNC D CLAMP & SYNC SEPARATOR
HALF H KILLER & NOISE REDUCER
EDGE DET
SKEW DET
PHASE DET
LPF
1/455
910fH VCO
1/2
V SYNC SEPARATOR & JOG VD DET
ODD/EVEN DET
V/H SELECT PULSE GEN
TP301
TP302
TP303
TP304
D302
CV302
ERCK
AFH
CSYN
REVEN
RVD
IC311
SYNCHRONIZER
OPT 0
OPT 1
OPT 2
OPT 3
P INP
DR IN
DR OUT
20


IC210, IC211
Y FIELD MEMORY(2)
IM bit RAM x2
IC207 YMR7-4
IC208 YMR3-0
IC212
CHROMA FIELD MEMORY(2)
IM bit RAM
IC309
IC301
SEG CONTROL, CHROMA ENCODER
YMR7 ~ YMR0
NOR
DOC
IH DELAY
ROM
VAR DELAY
S.E.G. CONTROL
DARK CLIP
SYNC INSERT
OFFSET BINARY
VAR DELAY
VAR DELAY
HPR 0
HPR 1
HPR 2
BNS 0
BNS 1
BDL 6
BDL 7
YTIM
BDR
R SYNC (READ SYNC)
R VMT (MUTING)
D.O.C. DET
YCFR
RCOT
FRAMING CONTROL
TIMING GEN.
RUV 0
RUV 1
CMR3 ~ CMR0
4→8 DE-MPX
U/V DE-MPX
INT-POL LPF
S.E.G. CONTROL
RE-SAMPLE
MUTE
VAR DELAY
CHROMA ENCODER
OFFSET BINARY
F SIG
F REF
PHASE COMPARATOR
CTL Z
P COM
CLOCK (910fH)
YCK I
CLOCK (4fsc)
CCK I
PAL P
C CKO
X OUT
X IN
RY7 ~ RY0
RC7 ~ RC0
OFSB
FRM 0
FRM 1
JP I 0
JP I 1
REVM
USCO
DOC
RFSC
SDAM
Q304 X301
4FSC VCXO
CV301
IC305
PHASE COMPARATOR
YMCK
IC302
Y D-A CONVERTER
Q302
BUFFER
IC303
CHROMA D-A CONVERTER
Q301
BUFFER
CLK
V REF
0.1V
H
IC304
SYNC SEP AFC
READ SYNC SEPARATOR
READ CLOCK GENERATOR
FSC
CPO
FEEDBACK CLAMP & SYNC SEPARATOR
H NOISE REDUCER
SYNC D CLAMP & SYNC SEPARATOR
C SYNC
HALF H KILLER & NOISE REDUCER
EDGE DET
SKEW DET
PHASE DET
LPF
1/455
910fH VCO
V SYNC SEPARATOR & JOG VD DET
ODD/EVEN DET
V/H SELECT PULSE GEN
1/2
TP301
TP302
TP303
TP304
D302
CV302
+5V
V SIN
RPD
FPD
PWM
PEO
MCKO
VMCK
HD
X VDT
RF SW
JOG
WENV
BFP
WIND
VC
AFH
YHD
CHD
HLFH
ERCK
CSYN
REVEN
RVD
IC311
SYNCHRONIZER
IC308 (1/2)
IC308 (1/2)
R SYNC
OPT 2
Y(D/A)OUT
Y CONT
C(D/A)OUT
C CONT
CN301
RHD (A/B)
C BLK
REVEN
RVD
DIGITAL PROCESS-1A/1B (DP-40 A/B)
CN201
YMR7 ~ YMR0
CMR3 ~ CMR0
OE1 M2
OE1 M1
MEM WEVEN
VCLR1 M2
VCLR1 M1
YCK I
EPAL
XCE
SCK
DATA TO SLV
P IN P KEY
F SIG
W·Ō/E
YHD
DIGITAL PROCESS-1A/1B (DP-40 A/B)
CN301
CHD
OPT 0
OPT 1
OPT 2
OPT 3
BDR IN
BDR OUT
RUV 0
RUV 1
DIGITAL PROCESS-1A/1B (DP-40 A/B)
DP-40A/B BOARD (1/2)
FL111
LPF
DL102
DELAY
Q115
BUFFER
FL110
4.43MHz BPF
Q116
BUFFER
W105
(See Page 225)
(See Page 235)
5.9V
8.3V
DP-40A BOARD
YA
CA
ANALOG PROCESS-2 (PP-10)
DP-40B BOARD
YB
CB
ANALOG PROCESS-2 (PP-10)
(See Page 151)
TS-122 BOARD (1/3)
+5V
RV510
RV509
RV504
RV503
LUMINANCE A
CHROMINANCE A
RV508
RV507
RV502
RV501
LUMINANCE B
LUMINANCE B
CN103
W504
A Y CONT
A C CONT
B Y CONT
B C CONT
W501
DP-40A BOARD
DP-40B BOARD
0.05V

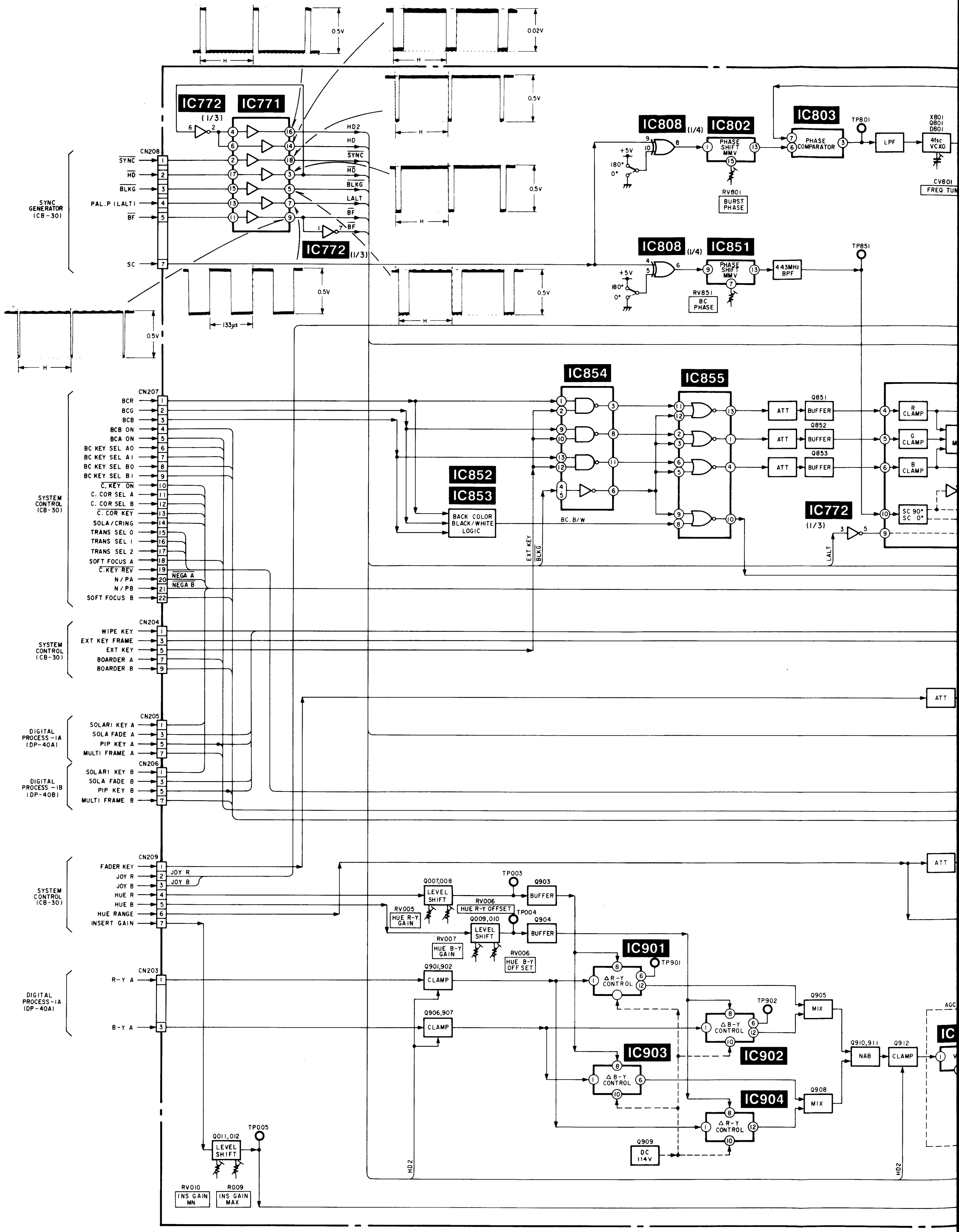
## 4-7. DIGITAL SEG MEMORY CONTROLLER PIN FUNCTION (IC213 CXD1228Q ON MB-45 BOARD)

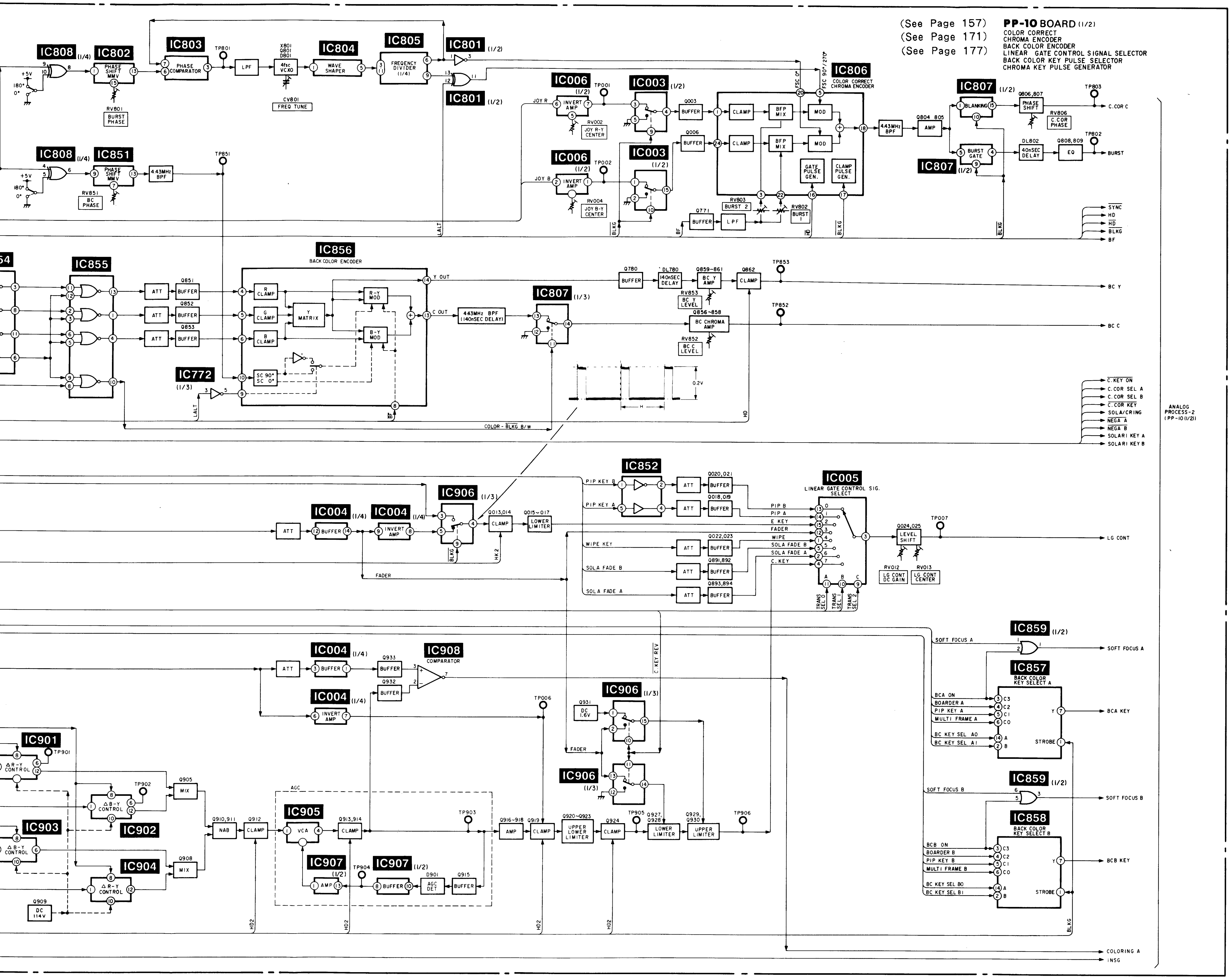
| Pin No. | Signal Name | I/O | Function |
|---|---|---|---|
| 1 | Vss | | GND |
| 2 | RCXI | I | Read system clock input. 910 fH (14.2 MHz) |
| 3 | REVN | I | Even/odd field monitor input. MSB of ID code. Fixed at "H" level. |
| 4 | RUV0 | O | Read system U/V timing output.  <br>UH, UL···U signal higher and lower bits.<br>VH, VL···V signal higher and lower bits. |
| 5 | RUV1 | O | |
| 6 | RCDT | O | Read system framing code timing output. |
| 7 | BDR | O | When this signal is "H", read system Y/C output becomes border level.<br>(For multi-picture frame signal generation) |
| 8 | RVMT | O | When this signal is "H", read system Y/C output is muted.<br>Y output···pedestal level (C8H)<br>C output···blanking level (0H) |
| 9 | BS0 | O | Solarization effect level selection. |
| 10 | BS1 | O | |
| 11 | HBD0 | O | U signal border level output. } Sets color of the border (multi-picture frame). |
| 12 | HBD1 | O | |
| 13 | HBD2 | O | V signal border level output. |
| 16 | HBD3 | O | |
| 14 | VDD | | +5V |
| 15 | Vss | | GND |
| 17 | HPR0 | O | Vertical enhancer characteristic selection and odd/even interpolation selection of still picture. |
| 18 | HPR1 | O | |
| 19 | HPR2 | O | |
| 20 | Y TIM | O | Timing output to pre-hold Y data. For mosaic mode |
| 21 | RSYC | O | Read system composite sync output. For servo circuit and character generator. |
| 22 | BDL | O | Y signal border level output. |
| 23 | PAL P | O | PAL phase control output. "L" when NTSC. |
| 24 | HCL2 | O | H read counter clear pulse output. } Output signal for field memory port 1. |
| 25 | Y INC | O | Increment pulse output (Y INC 1). |
| 26 | Y CL2 | O | V read counter clear pulse output. |
| 27 | C INC | O | Increment pulse output (C INC 1). } Output signal for field memory port 1. |
| 28 | MYCK | O | Y read clock (CKR 1). |
| 29 | MCCK | O | C read clock (CKR 1). |
| 30 | TEST | | GND |
| 31 | Vss | | GND |
| 32 | HCLO | O | H write counter reset pulse output. } Output signal for field memory port 0. |
| 33 | INCO | O | Increment pulse output. |
| 34 | VCLO | O | V write counter reset pulse output. |
| 35 | XMWE | O | Write enable pulse output. |
| 36~39 | PSA3~PSA0 | O | Preset address output.<br>(Used in multi, Pins mode.) |

| Pin No. | Signal Name | I/O | Function |
|---|---|---|---|
| 40 | VCL1 | O | V read counter reset pulse output.<br>Increment pulse output.<br>H read counter reset pulse output.<br>} Output signal for field memory port 2. |
| 41 | INC1 | O | |
| 42 | HCL1 | O | |
| 43 | CEV1 | O | CNR characteristics selection. |
| 46 | CEV0 | O | |
| 44 | VDD | | +5V |
| 45 | Vss | | GND |
| 47 | YEV2 | O | YNR characteristics, etc. select signal. |
| 48 | YEV1 | O | |
| 49 | YEV0 | O | |
| 50 | WUV1 | O | U/V signal multiplex timing output.<br> WUV 1<br>····3.55 MHz<br>WUV 0<br>····7.11 MHz<br>CMW 0~3<br>VL VH UL UH VL VH UL UH<br>UL, UH···U signal higher and lower bits.<br>VL, VH···V signal higher and lower bits. |
| 51 | WUV0 | O | |
| 52 | WCOT | O | Chroma signal, option data, forming data multiplex timing output. |
| 53 | WVMT | O | Y mute signal output. "H"···mute |
| 54 | FNR | O | NR ON/OFF select signal. "H"···ON |
| 55 | ACK | I | ACK judgment input. "L"···color |
| 56 | TWH | I | GND<br>GND<br>} Test terminal |
| 57 | TWV | I | |
| 58 | MSCK | I | DWCK input clock. 910 fH (14.2 MHz) |
| 59 | DWCK | O | Y signal D/A conversion clock. 20 nsec delayed MSCK signal |
| 60 | WCKI | I | Write system clock input. 910 fH (14.2 MHz) |
| 61 | Vss | | GND |
| 62 | WSYS | I | Write system NTSC/PAL selection. PAL···"L" |
| 63 | EV MT | I | Video mute input. Fixed at "L" level (not muted). |
| 64 | XWE | I | Write enable input. Write enable···"L" |
| 65 | SYT | O | Test monitor terminal. |
| 66 | TDS | I | Test terminal. Connected to GND. |
| 67 | TSH | I | |
| 68 | TSV | I | |
| 69 | JOG | O | Memory write sync select signal.<br>( "H"···synchronized with RF SWP.<br>"L"···synchronized with VD signal. )<br>Not used. |
| 70 | WEVN | I | Odd/even field discrimination input. Fixed at "H" level. |
| 71 | AFH | I | HD pulse input.<br>VD pulse input.<br>} From write system sync separator. |
| 72 | VD | I | |
| 73 | ESYN | I | Composite sync input.<br>Even/odd field pulse input.<br>HD pulse input.<br>VD pulse input.<br>} From read system sync signal generator. |
| 76 | EEVN | I | |
| 77 | EAFH | I | |
| 78 | EVD | I | |
| 74 | VDD | | +5V |
| 75 | Vss | | GND |
| 79 | EPVD | I | Frame period pulse input from write system sync separator. |

| Pin No. | Signal Name | I/O | Function |
|---|---|---|---|
| 80~87,<br>88~90,<br>92~96 | EA7~EA0, ED7~ED0 | I/O | Test terminal. |
| 91 | Vss | | GND |
| 97 | SDI | I | Serial data input.<br>Serial communication input<br>Command is input from system controller. |
| 98 | SCK | I | Clock input. |
| 99 | XCE | I | Chip select input. |
| 100 | OPT0 | O | P IN P. Serial communication option command<br>Decode output |
| 101 | OPT1 | O | |
| 102 | OPT2 | O | |
| 103 | OPT3 | O | |
| 104 | VDD | | +5V |
| 105 | Vss | | GND |
| 106 | XCLR | I | Clear input. Fixed at "H" level. |
| 107 | RSYS | I | Read system NTSC/PAL selection. PAL…"L". |
| 108 | EPAL | I | External phase  2V |
| 109 | ADC | I | Advance chroma ON…"H"<br>Normal delay chroma…"L"<br>Fixed at "H" level. |
| 110 | PPT | O | Parent/child picture selection in P in P mode. (P in P key) |
| 111, 112 | TRV, TRH | I | Test terminal. Fixed at "L" level. |
| 113 | WND | I | Reference phase signal input for V PLL. Not used. (Connected to GND.) |
| 114 | VPER | O | V PLL phase comparison output. Not used. |
| 115 | OPI | I | OP amplifier input/output terminal. Not used. |
| 116 | OPO | O | |
| 117 | X IN | I | Read system clock (ERCK) input. 910 fH (14.2 MHz) |
| 118 | X OUT | O | X IN inversion output. (for crystal oscillation) |
| 119 | RCKO | O | X IN inversion output. |
| 120 | DRCK | O | RCKO delay output. 910 fH (14.2 MHz) |

## 4-8. ANALOG PROCESS-1 BLOCK DIAGRAM

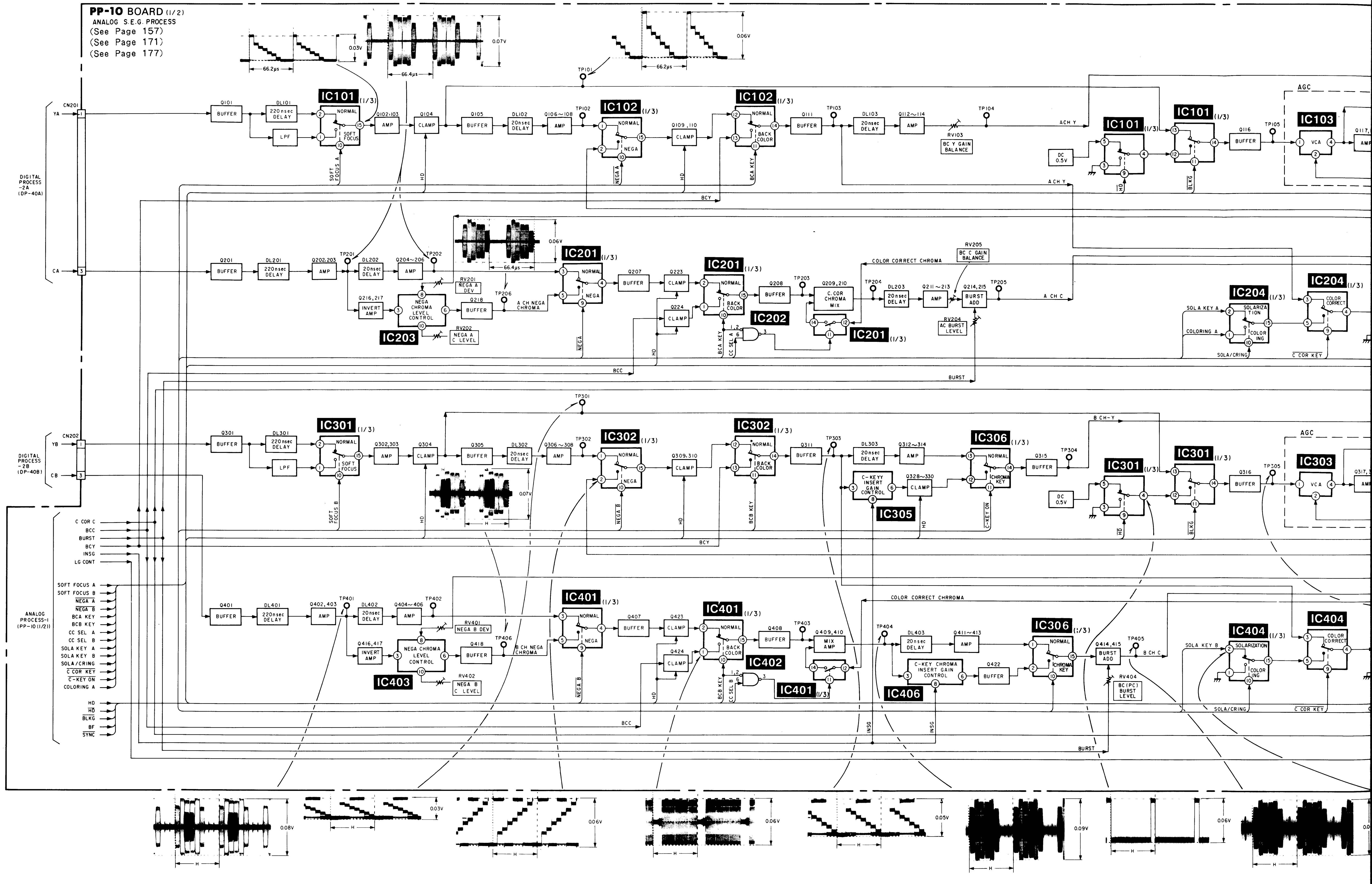

IC772 (1/3)
IC771
IC772 (1/3)
IC808 (1/4)
IC802
PHASE SHIFT MMV
IC803
PHASE COMPARATOR
TP801
LPF
X801 Q801 D801
4fsc VCXO
CV801 FREQ TUN
RV801 BURST PHASE
IC851
RV851 BC PHASE
4.43MHz BPF
TP851
0.5V
0.02V
H
133μs
CN208
SYNC GENERATOR (CB-30)
SYNC
HD
BLKG
PAL.P (LALT)
BF
SC
HD2
LALT
+5V
180°
0°
CN207
SYSTEM CONTROL (CB-30)
BCR
BCG
BCB
BCB ON
BCA ON
BC KEY SEL A0
BC KEY SEL A1
BC KEY SEL B0
BC KEY SEL B1
C.KEY ON
C.COR SEL A
C.COR SEL B
C.COR KEY
SOLA/CRING
TRANS SEL 0
TRANS SEL 1
TRANS SEL 2
SOFT FOCUS A
C.KEY REV
N/PA
N/PB
SOFT FOCUS B
NEGA A
NEGA B
IC854
IC855
IC852
IC853
BACK COLOR BLACK/WHITE LOGIC
BC.B/W
EXT KEY
BLKG
ATT
Q851
Q852
Q853
BUFFER
R CLAMP
G CLAMP
B CLAMP
SC 90° SC 0°
CN204
WIPE KEY
EXT KEY FRAME
EXT KEY
BOARDER A
BOARDER B
CN205
DIGITAL PROCESS-1A (DP-40A)
SOLARI KEY A
SOLA FADE A
PIP KEY A
MULTI FRAME A
CN206
DIGITAL PROCESS-1B (DP-40B)
SOLARI KEY B
SOLA FADE B
PIP KEY B
MULTI FRAME B
CN209
FADER KEY
JOY R
JOY B
HUE R
HUE B
HUE RANGE
INSERT GAIN
Q007,008
LEVEL SHIFT
TP003
Q903
BUFFER
RV005 HUE R-Y GAIN
RV006 HUE R-Y OFFSET
TP004
Q009,010
Q904
RV007 HUE B-Y GAIN
RV006 HUE B-Y OFF SET
CN203
R-Y A
B-Y A
Q901,902
CLAMP
Q906,907
IC901
TP901
ΔR-Y CONTROL
ΔB-Y CONTROL
TP902
IC902
IC903
IC904
Q905
MIX
Q908
Q909
DC 11.4V
Q910,911
NAB
Q912
AGC
Q011,012
TP005
RV010 INS GAIN MN
R009 INS GAIN MAX


(See Page 157)
(See Page 171)
(See Page 177)

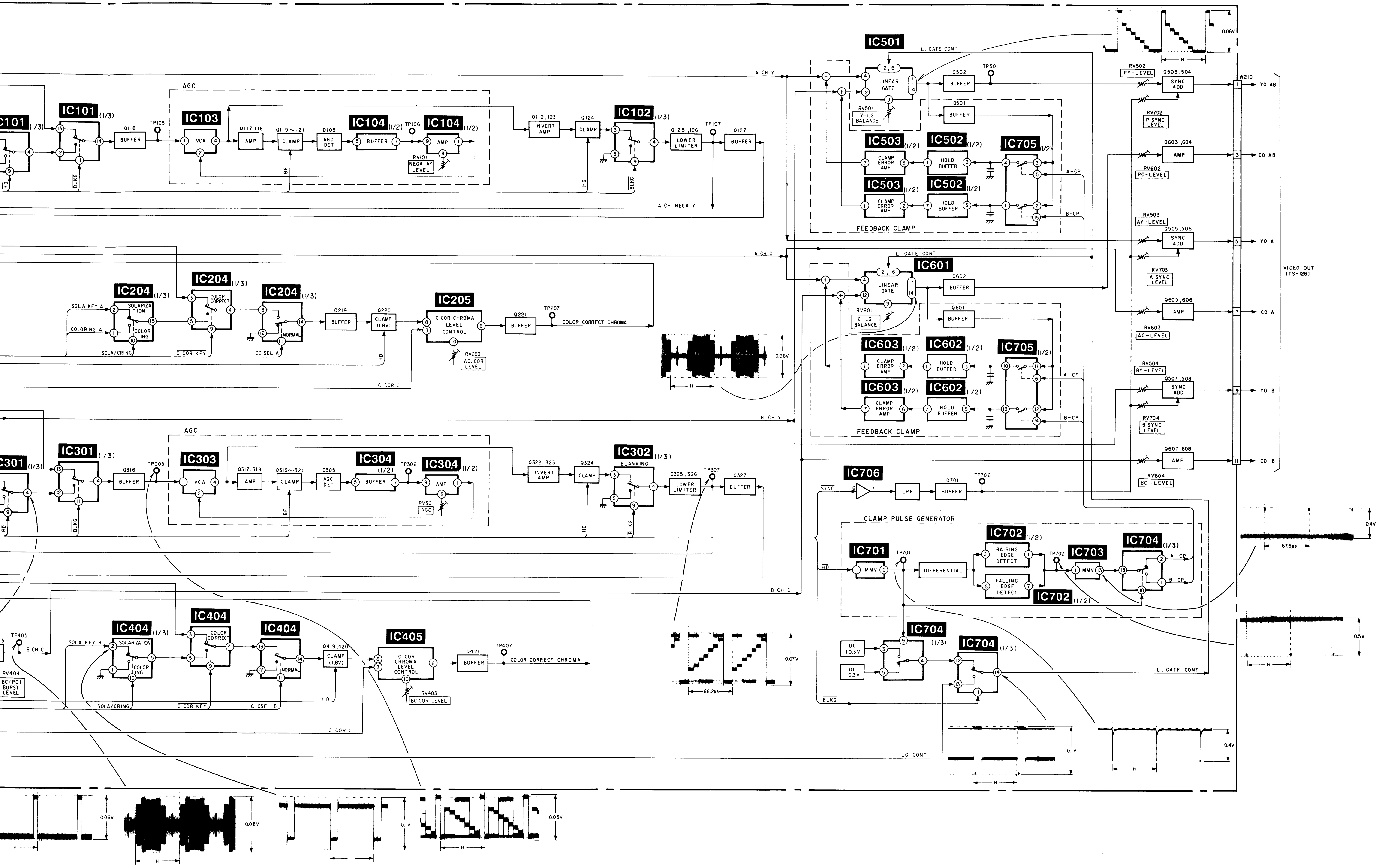
**PP-10 BOARD** (1/2)
COLOR CORRECT
CHROMA ENCODER
BACK COLOR ENCODER
LINEAR GATE CONTROL SIGNAL SELECTOR
BACK COLOR KEY PULSE SELECTOR
CHROMA KEY PULSE GENERATOR

IC808 (1/4)
IC802
PHASE SHIFT MMV
RV801 BURST PHASE
IC803
PHASE COMPARATOR
TP801
LPF
X801 Q801 D801
4fsc VCXO
CV801 FREQ TUNE
IC804
WAVE SHAPER
IC805
FREQENCY DIVIDER (1/4)
IC801 (1/2)
IC851
RV851 BC PHASE
4.43MHz BPF
TP851
LALT
JOY R
JOY B
IC006 (1/2)
INVERT AMP
RV002 JOY R-Y CENTER
RV004 JOY B-Y CENTER
TP001
TP002
IC003 (1/2)
Q003 BUFFER
Q006 BUFFER
IC806
COLOR CORRECT CHROMA ENCODER
FSC 0°
FSC 90°/270°
CLAMP
BFP MIX
MOD
GATE PULSE GEN.
CLAMP PULSE GEN.
RV803 BURST 2
RV802 BURST 1
Q771 BUFFER
LPF
BLKG
BF
HD
Q804 805
AMP
IC807 (1/2)
BLANKING
BURST GATE
Q806,807
PHASE SHIFT
RV806 C.COR PHASE
TP803
C.COR C
DL802
40nSEC DELAY
Q808,809
EQ
TP802
BURST
SYNC
HD
HD
BLKG
BF
IC855
ATT
Q851 BUFFER
Q852 BUFFER
Q853 BUFFER
IC856
BACK COLOR ENCODER
R CLAMP
G CLAMP
B CLAMP
Y MATRIX
R-Y MOD
B-Y MOD
SC 90°
SC 0°
Y OUT
C OUT
4.43MHz BPF (140nSEC DELAY)
IC807 (1/3)
IC772 (1/3)
Q780 BUFFER
DL780 140nSEC DELAY
Q859~861 BC Y AMP
RV853 BC Y LEVEL
Q862 CLAMP
TP853
TP852
Q856~858 BC CHROMA AMP
RV852 BC C LEVEL
BC Y
BC C
0.2V
H
COLOR - BLKG B/W
C.KEY ON
C.COR SEL A
C.COR SEL B
C.COR KEY
SOLA/CRING
NEGA A
NEGA B
SOLARI KEY A
SOLARI KEY B
ANALOG PROCESS-2 (PP-10(1/2))
IC852
PIP KEY B
PIP KEY A
Q020,021
Q018,019
IC005
LINEAR GATE CONTROL SIG. SELECT
PIP B
PIP A
E KEY
FADER
WIPE
SOLA FADE B
SOLA FADE A
C.KEY
TRANS SEL
Q024,025 LEVEL SHIFT
TP007
LG CONT
RV012 LG CONT DC GAIN
RV013 LG CONT CENTER
IC004 (1/4)
BUFFER
INVERT AMP
IC906 (1/3)
Q013,014 CLAMP
Q015~017 LOWER LIMITER
HK2
FADER
WIPE KEY
SOLA FADE B
SOLA FADE A
Q022,023
Q891,892
Q893,894
C.KEY REV
IC908
COMPARATOR
Q933 BUFFER
Q932 BUFFER
TP006
Q931 DC 1.6V
IC901
TP901
ΔR-Y CONTROL
ΔB-Y CONTROL
TP902
Q905 MIX
IC903
IC902
IC904
Q908 MIX
Q909 DC 11.4V
Q910,911 NAB
Q912 CLAMP
AGC
IC905
VCA
Q913,914 CLAMP
IC907 (1/2)
AMP
TP904
BUFFER
D901 AGC DET
Q915 BUFFER
TP903
Q916~918 AMP
Q919 CLAMP
Q920~Q923 UPPER LOWER LIMITER
Q924 CLAMP
TP905
Q927,Q928 LOWER LIMITER
Q929,Q930 UPPER LIMITER
TP906
HD2
IC859 (1/2)
SOFT FOCUS A
SOFT FOCUS B
IC857
BACK COLOR KEY SELECT A
BCA ON
BOARDER A
PIP KEY A
MULTI FRAME A
BC KEY SEL A0
BC KEY SEL A1
STROBE
BCA KEY
IC858
BACK COLOR KEY SELECT B
BCB ON
BOARDER B
PIP KEY B
MULTI FRAME B
BC KEY SEL B0
BC KEY SEL B1
BCB KEY
COLORING A
INSG

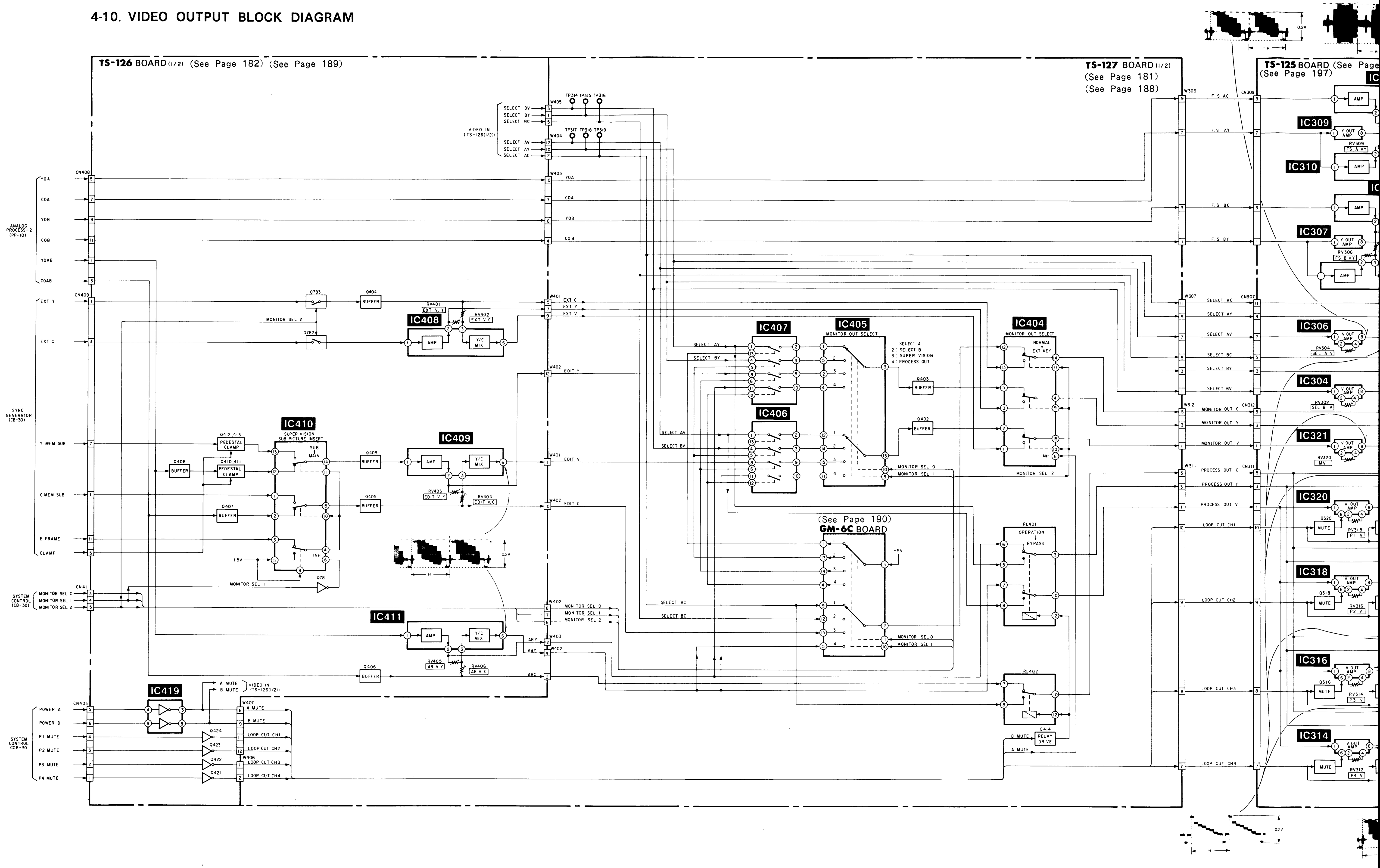
## 4-9. ANALOG PROCESS-2 BLOCK DIAGRAM

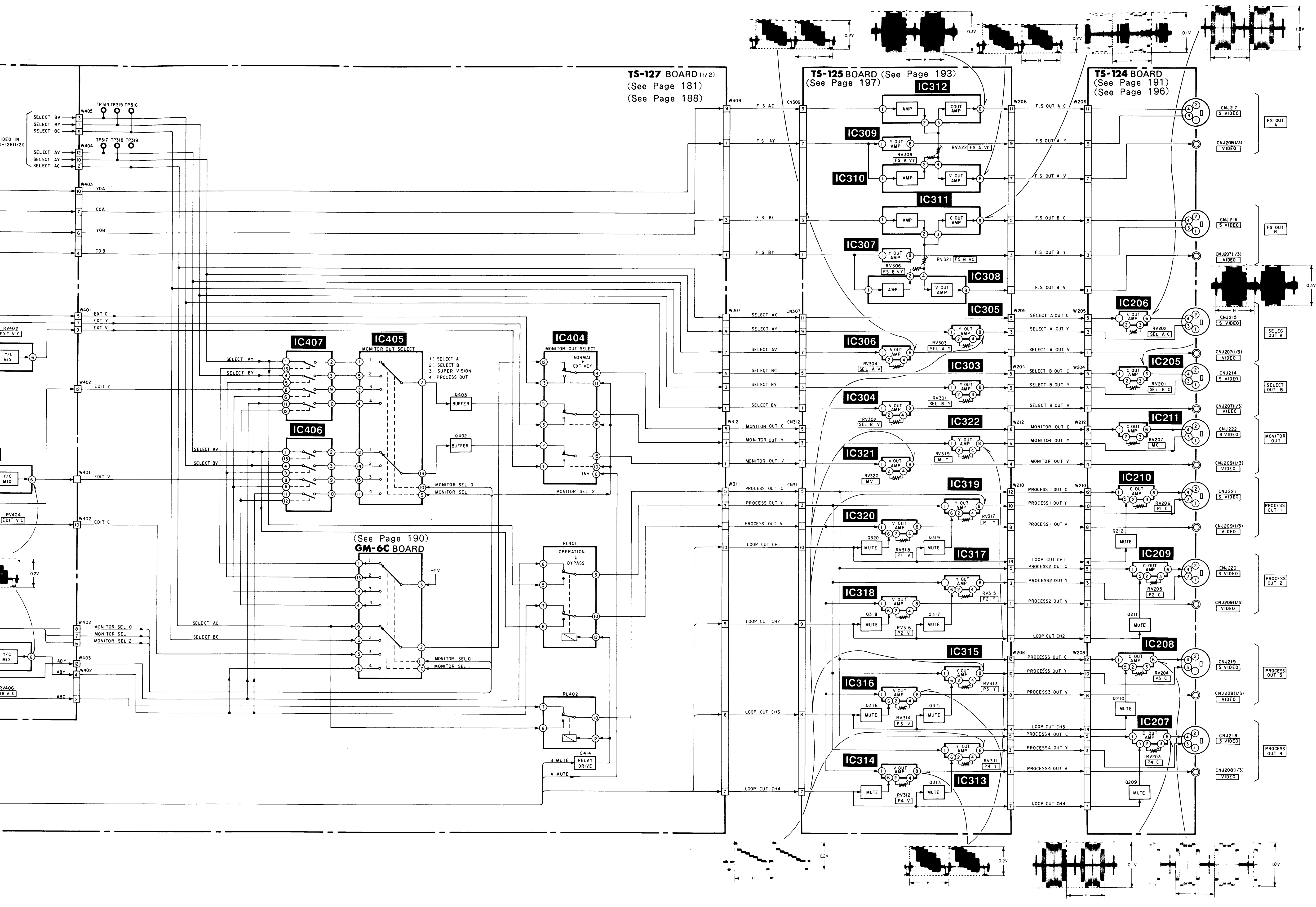


PP-10 BOARD (1/2)
ANALOG S.E.G. PROCESS
(See Page 157)
(See Page 171)
(See Page 177)
DIGITAL PROCESS -2A (DP-40A)
DIGITAL PROCESS -2B (DP-40B)
ANALOG PROCESS-1 (PP-10 (1/2))
CN201
CN202
YA
CA
YB
CB
C COR C
BCC
BURST
BCY
INSG
LG CONT
SOFT FOCUS A
SOFT FOCUS B
NEGA A
NEGA B
BCA KEY
BCB KEY
CC SEL A
CC SEL B
SOLA KEY A
SOLA KEY B
SOLA/CRING
C COR KEY
C-KEY ON
COLORING A
HD
BLKG
BF
SYNC
IC101 (1/3)
IC102 (1/3)
IC103
IC201 (1/3)
IC202
IC203
IC204 (1/3)
IC301 (1/3)
IC302 (1/3)
IC303
IC305
IC306 (1/3)
IC401 (1/3)
IC402
IC403
IC404 (1/3)
IC406
Q101 BUFFER
DL101 220nsec DELAY
LPF
NORMAL
SOFT FOCUS
Q102·103 AMP
Q104 CLAMP
Q105 BUFFER
DL102 20nsec DELAY
Q106~108 AMP
NEGA
Q109,110 CLAMP
BACK COLOR
Q111 BUFFER
DL103 20nsec DELAY
Q112~114 AMP
RV103 BC Y GAIN BALANCE
ACH Y
DC 0.5V
Q116 BUFFER
AGC
VCA
TP101
TP102
TP103
TP104
TP105
66.2μs
66.4μs
0.03V
0.07V
0.06V
Q201 BUFFER
DL201 220nsec DELAY
Q202,203 AMP
DL202 20nsec DELAY
Q204~206 AMP
Q216,217 INVERT AMP
NEGA CHROMA LEVEL CONTROL
Q218 BUFFER
RV201 NEGA A DEV
RV202 NEGA A C LEVEL
A CH NEGA CHROMA
Q207 BUFFER
Q223 CLAMP
Q224 CLAMP
Q208 BUFFER
Q209,210 C.COR CHROMA MIX
COLOR CORRECT CHROMA
RV205 BC C GAIN BALANCE
DL203 20nsec DELAY
Q211~213 AMP
Q214,215 BURST ADD
RV204 AC BURST LEVEL
A CH C
SOLARIZATION
COLORING
COLOR CORRECT
TP201
TP202
TP203
TP204
TP205
TP206
Q301 BUFFER
DL301 220nsec DELAY
Q302,303 AMP
Q304 CLAMP
Q305 BUFFER
DL302 20nsec DELAY
Q306~308 AMP
Q309,310 CLAMP
Q311 BUFFER
DL303 20nsec DELAY
Q312~314 AMP
C-KEYY INSERT GAIN CONTROL
Q328~330 CLAMP
CHROMA KEY
Q315 BUFFER
B CH-Y
Q316 BUFFER
TP301
TP302
TP303
TP304
TP305
Q401 BUFFER
DL401 220nsec DELAY
Q402,403 AMP
DL402 20nsec DELAY
Q404~406 AMP
Q416,417 INVERT AMP
Q418 BUFFER
RV401 NEGA B DEV
RV402 NEGA B C LEVEL
B CH NEGA CHROMA
Q407 BUFFER
Q423 CLAMP
Q424 CLAMP
Q408 BUFFER
Q409,410 MIX AMP
COLOR CORRECT CHRROMA
DL403 20nsec DELAY
Q411~413 AMP
C-KEY CHROMA INSERT GAIN CONTROL
Q422 BUFFER
Q414,415 BURST ADD
RV404 BC(PC) BURST LEVEL
B CH C
TP401
TP402
TP403
TP404
TP405
TP406
H
0.08V
0.03V
0.06V
0.05V
0.09V

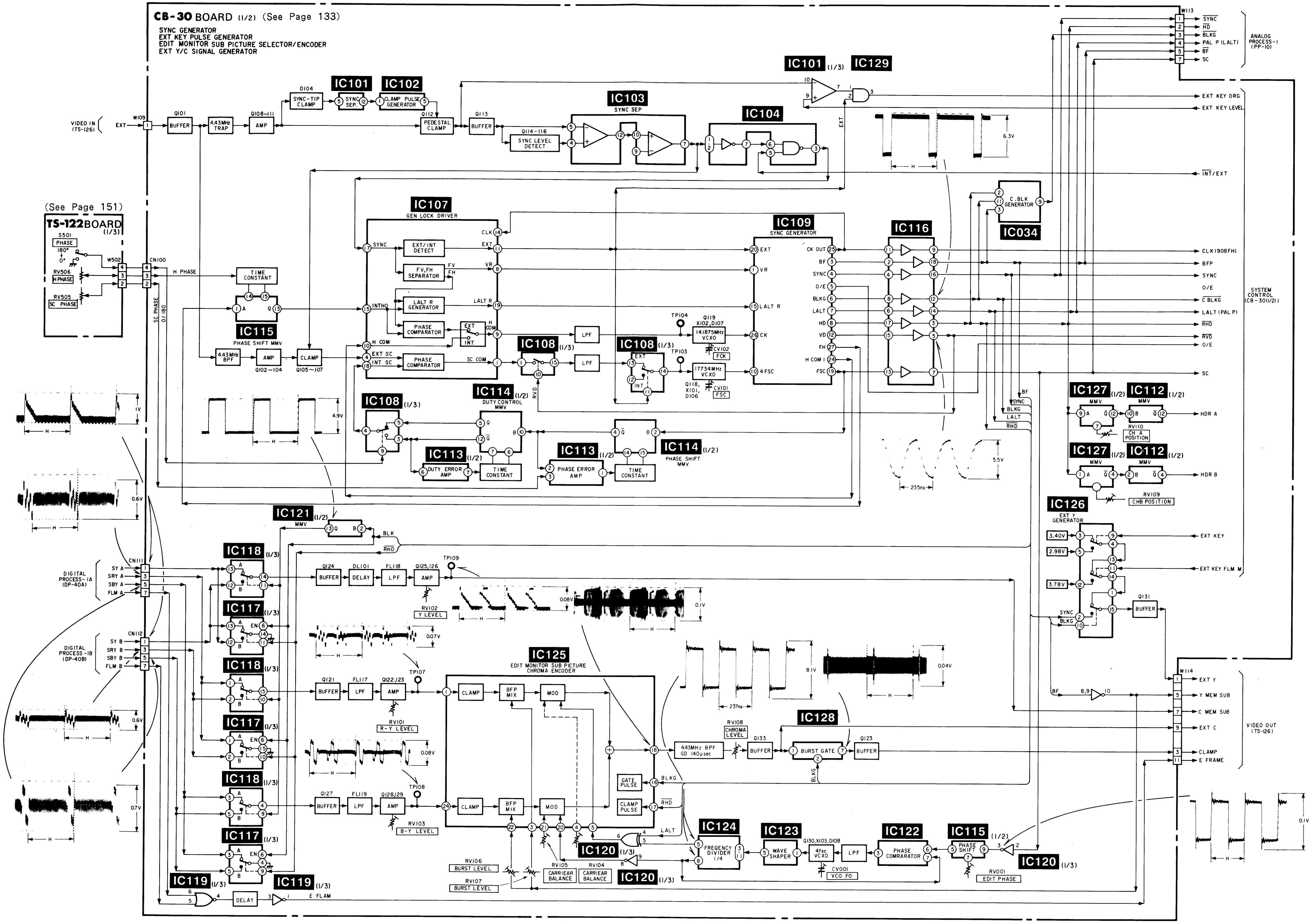

IC101 (1/3)
IC101 (1/3)
Q116 BUFFER
TP105
AGC
IC103 VCA
Q117,118 AMP
Q119~121 CLAMP
D105 AGC DET
IC104 (1/2) BUFFER
TP106
IC104 (1/2) AMP
RV101 NEGA AY LEVEL
Q112,123 INVERT AMP
Q124 CLAMP
IC102 (1/3)
Q125,126 LOWER LIMITER
TP107
Q127 BUFFER
HD
BLKG
BF
A CH Y
A CH NEGA Y
IC501
L. GATE CONT
LINEAR GATE
RV501 Y-LG BALANCE
Q502 BUFFER
TP501
Q501 BUFFER
IC503 (1/2) CLAMP ERROR AMP
IC502 (1/2) HOLD BUFFER
IC705 (1/2)
A-CP
B-CP
FEEDBACK CLAMP
RV502 PY-LEVEL
Q503,504 SYNC ADD
RV702 P SYNC LEVEL
Q603,604 AMP
RV602 PC-LEVEL
RV503 AY-LEVEL
Q505,506 SYNC ADD
RV703 A SYNC LEVEL
Q605,606 AMP
RV603 AC-LEVEL
RV504 BY-LEVEL
Q507,508 SYNC ADD
RV704 B SYNC LEVEL
Q607,608 AMP
RV604 BC-LEVEL
W210
YO AB
CO AB
YO A
CO A
YO B
CO B
VIDEO OUT (TS-126)
0.06V
H
SOLA KEY A
COLORING A
IC204 (1/3) SOLARIZATION
COLORING
SOLA/CRING
IC204 (1/3) COLOR CORRECT
C COR KEY
IC204 (1/3) NORMAL
CC SEL A
Q219 BUFFER
Q220 CLAMP (1.8V)
IC205 C.COR CHROMA LEVEL CONTROL
RV203 AC.COR LEVEL
Q221 BUFFER
TP207
COLOR CORRECT CHROMA
C COR C
A CH C
IC601
LINEAR GATE
RV601 C-LG BALANCE
Q602 BUFFER
Q601 BUFFER
IC603 (1/2) CLAMP ERROR AMP
IC602 (1/2) HOLD BUFFER
IC705 (1/2)
B CH Y
IC301 (1/3)
IC301 (1/3)
Q316 BUFFER
TP305
IC303 VCA
Q317,318 AMP
Q319~321 CLAMP
D305 AGC DET
IC304 (1/2) BUFFER
TP306
IC304 (1/2) AMP
RV301 AGC
Q322,323 INVERT AMP
Q324 CLAMP
IC302 (1/3) BLANKING
Q325,326 LOWER LIMITER
TP307
Q327 BUFFER
B CH C
IC706
SYNC
LPF
Q701 BUFFER
TP706
CLAMP PULSE GENERATOR
IC701 MMV
TP701
DIFFERENTIAL
IC702 (1/2) RAISING EDGE DETECT
IC702 (1/2) FALLING EDGE DETECT
TP702
IC703 MMV
IC704 (1/3)
IC704 (1/3)
IC704 (1/3)
DC +0.3V
DC -0.3V
L. GATE CONT
LG CONT
BLKG
TP405
B CH C
RV404 BC(PC) BURST LEVEL
SOLA KEY B
IC404 (1/3) SOLARIZATION COLORING
IC404 COLOR CORRECT
IC404 NORMAL
Q419,420 CLAMP (1.8V)
IC405 C.COR CHROMA LEVEL CONTROL
RV403 BC.COR LEVEL
Q421 BUFFER
TP407
COLOR CORRECT CHROMA
C CSEL B
C COR C
0.07V
66.2μs
0.4V
67.6μs
0.5V
0.1V
0.4V
0.06V
0.08V
0.1V
0.05V

## 4-10. VIDEO OUTPUT BLOCK DIAGRAM

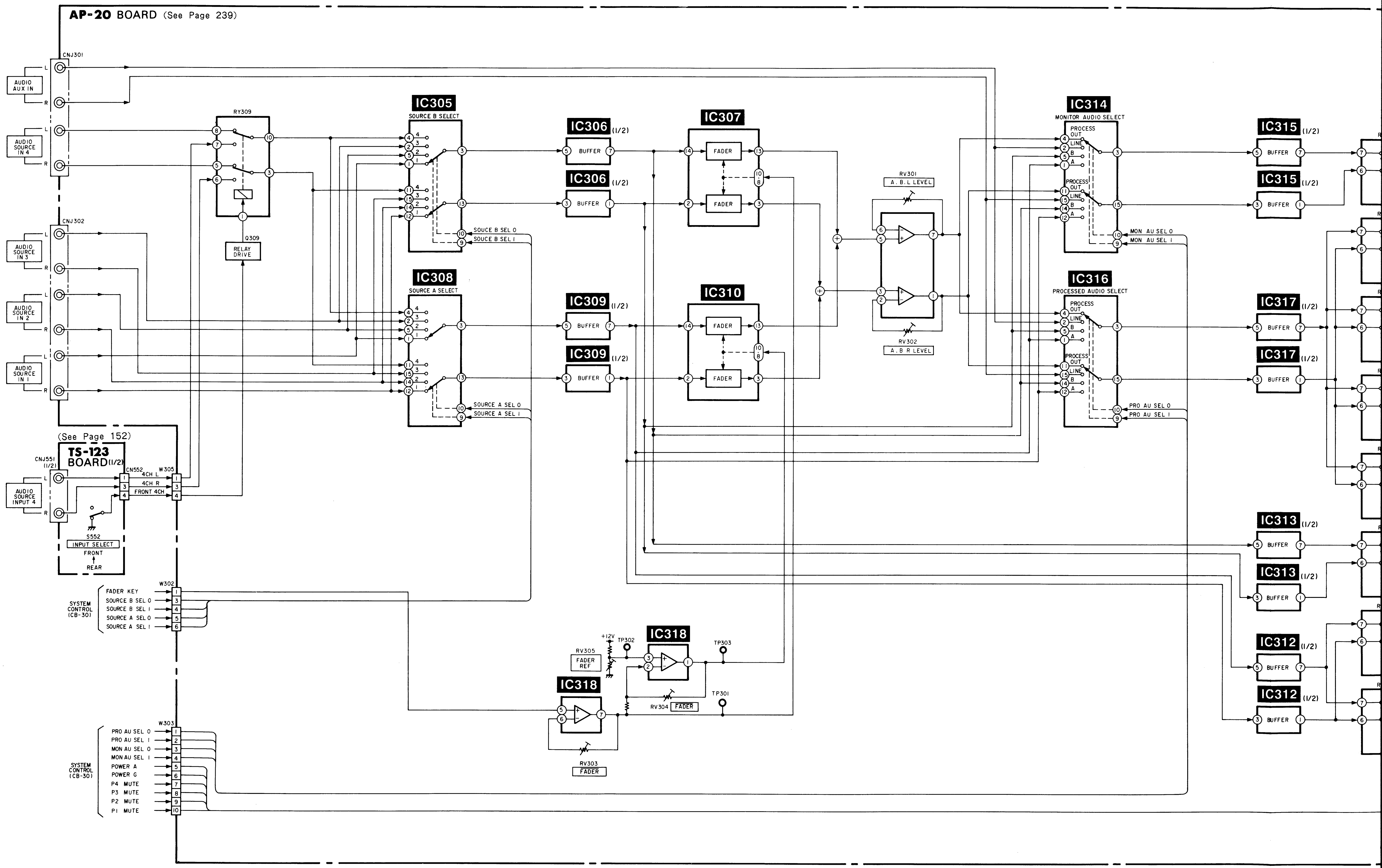

TS-126 BOARD (1/2) (See Page 182) (See Page 189)
TS-127 BOARD (1/2)
(See Page 181)
(See Page 188)
TS-125 BOARD (See Page
(See Page 197)
ANALOG PROCESS-2 (PP-10)
YOA
COA
YOB
COB
YOAB
COAB
CN408
CN409
SYNC GENERATOR (CB-30)
EXT Y
EXT C
Y MEM SUB
C MEM SUB
E FRAME
CLAMP
SYSTEM CONTROL (CB-30)
MONITOR SEL 0
MONITOR SEL 1
MONITOR SEL 2
CN411
SYSTEM CONTROL CCB-30
POWER A
POWER D
P1 MUTE
P2 MUTE
P3 MUTE
P4 MUTE
CN403
VIDEO IN (TS-126(1/2))
SELECT BV
SELECT BY
SELECT BC
SELECT AV
SELECT AY
SELECT AC
W405
W404
W403
W401
W402
W407
W406
TP314 TP315 TP316
TP317 TP318 TP319
Q783
Q782
Q404
BUFFER
MONITOR SEL 2
RV401 EXT V. Y
RV402 EXT V. C
IC408
AMP
Y/C MIX
EXT C
EXT Y
EXT V
EDIT Y
EDIT V
EDIT C
IC410
SUPER VISION SUB PICTURE INSERT
SUB
MAIN
INH
Q412,413 PEDESTAL CLAMP
Q410,411 PEDESTAL CLAMP
Q408 BUFFER
Q407 BUFFER
Q409 BUFFER
Q405 BUFFER
Q406 BUFFER
Q781
+5V
MONITOR SEL 1
IC409
RV403 EDIT V. Y
RV404 EDIT V. C
0.2V
H
IC411
RV405 AB V. Y
RV406 AB V. C
ABY
ABC
MONITOR SEL 0
MONITOR SEL 1
MONITOR SEL 2
IC419
A MUTE
B MUTE
VIDEO IN (TS-126(1/2))
Q424
Q423
Q422
Q421
LOOP CUT CH1
LOOP CUT CH2
LOOP CUT CH3
LOOP CUT CH4
IC407
SELECT AY
SELECT BY
IC406
SELECT AV
SELECT BV
IC405
MONITOR OUT SELECT
1 : SELECT A
2 : SELECT B
3 : SUPER VISION
4 : PROCESS OUT
Q403 BUFFER
Q402 BUFFER
(See Page 190)
GM-6C BOARD
SELECT AC
SELECT BC
IC404
MONITOR OUT SELECT
NORMAL
EXT KEY
MONITOR SEL 2
RL401
OPERATION
BYPASS
RL402
Q414 RELAY DRIVE
B MUTE
A MUTE
W309
F. S AC
F. S AY
F. S BC
F. S BY
W307
SELECT AC
SELECT AY
SELECT AV
SELECT BC
SELECT BY
SELECT BV
W312
MONITOR OUT C
MONITOR OUT Y
MONITOR OUT V
W311
PROCESS OUT C
PROCESS OUT Y
PROCESS OUT V
LOOP CUT CH1
LOOP CUT CH2
LOOP CUT CH3
LOOP CUT CH4
CN309
CN307
CN312
CN311
IC309
Y OUT AMP
RV309 FS A VY
IC310
IC307
RV306 FS B VY
IC306
V OUT AMP
RV304 SEL A V
IC304
RV302 SEL B V
IC321
RV320 MV
IC320
Q320 MUTE
RV318 P1 V
IC318
Q318 MUTE
RV316 P2 V
IC316
Q316 MUTE
RV314 P3 V
IC314
MUTE
RV312 P4 V
0.2V
H


TS-127 BOARD (1/2)
(See Page 181)
(See Page 188)
TS-125 BOARD (See Page 193)
(See Page 197)
TS-124 BOARD
(See Page 191)
(See Page 196)
(See Page 190)
GM-6C BOARD
IC312
IC309
IC310
IC311
IC307
IC308
IC305
IC306
IC303
IC304
IC322
IC321
IC319
IC320
IC317
IC318
IC315
IC316
IC313
IC314
IC206
IC205
IC211
IC210
IC209
IC208
IC207
IC407
IC405
IC404
IC406
MONITOR OUT SELECT
1: SELECT A
2: SELECT B
3: SUPER VISION
4: PROCESS OUT
NORMAL
EXT KEY
INH
MONITOR SEL 2
MONITOR SEL 0
MONITOR SEL 1
BUFFER
Q403
Q402
RL401
OPERATION
BYPASS
RL402
RELAY DRIVE
Q414
B MUTE
A MUTE
+5V
SELECT BV
SELECT BY
SELECT BC
SELECT AV
SELECT AY
SELECT AC
TP314 TP315 TP316
TP317 TP318 TP319
W405
W404
W403
W401
W402
YOA
COA
YOB
COB
EXT C
EXT Y
EXT V
EDIT Y
EDIT V
EDIT C
RV402 EXT V.C
RV404 EDIT V.C
RV406 AB V.C
Y/C MIX
ABY
ABC
W309
W307
W312
W311
CN309
CN307
CN312
CN311
W206
W205
W204
W212
W210
W208
F.S AC
F.S AY
F.S BC
F.S BY
SELECT AC
SELECT AY
SELECT AV
SELECT BC
SELECT BY
SELECT BV
MONITOR OUT C
MONITOR OUT Y
MONITOR OUT V
PROCESS OUT C
PROCESS OUT Y
PROCESS OUT V
LOOP CUT CH1
LOOP CUT CH2
LOOP CUT CH3
LOOP CUT CH4
AMP
C OUT AMP
Y OUT AMP
V OUT AMP
MUTE
RV309 FS A VY
RV322 FS A VC
RV306 FS B VY
RV321 FS B VC
RV303 SEL A Y
RV304 SEL A V
RV301 SEL B Y
RV302 SEL B V
RV319 M Y
RV320 MV
RV317 P1 Y
RV318 P1 V
RV315 P2 Y
RV316 P2 V
RV313 P3 Y
RV314 P3 V
RV311 P4 Y
RV312 P4 V
Q320 Q319 Q318 Q317 Q316 Q315 Q313
F.S OUT A C
F.S OUT A Y
F.S OUT A V
F.S OUT B C
F.S OUT B Y
F.S OUT B V
SELECT A OUT C
SELECT A OUT Y
SELECT A OUT V
SELECT B OUT C
SELECT B OUT Y
SELECT B OUT V
MONITOR OUT C
MONITOR OUT Y
MONITOR OUT V
PROCESS1 OUT C
PROCESS1 OUT Y
PROCESS1 OUT V
PROCESS2 OUT C
PROCESS2 OUT Y
PROCESS2 OUT V
PROCESS3 OUT C
PROCESS3 OUT Y
PROCESS3 OUT V
PROCESS4 OUT C
PROCESS4 OUT Y
PROCESS4 OUT V
RV202 SEL A C
RV201 SEL B C
RV207 MC
RV206 P1 C
RV205 P2 C
RV204 P3 C
RV203 P4 C
Q212 Q211 Q210 Q209
CNJ217 S VIDEO
CNJ208(1/3) VIDEO
CNJ216 S VIDEO
CNJ207(1/3) VIDEO
CNJ215 S VIDEO
CNJ214 S VIDEO
CNJ222 S VIDEO
CNJ209(1/3) VIDEO
CNJ221 S VIDEO
CNJ220 S VIDEO
CNJ219 S VIDEO
CNJ218 S VIDEO
FS OUT A
FS OUT B
SELEC OUT A
SELECT OUT B
MONITOR OUT
PROCESS OUT 1
PROCESS OUT 2
PROCESS OUT 3
PROCESS OUT 4
0.2V
0.3V
0.1V
1.8V
H

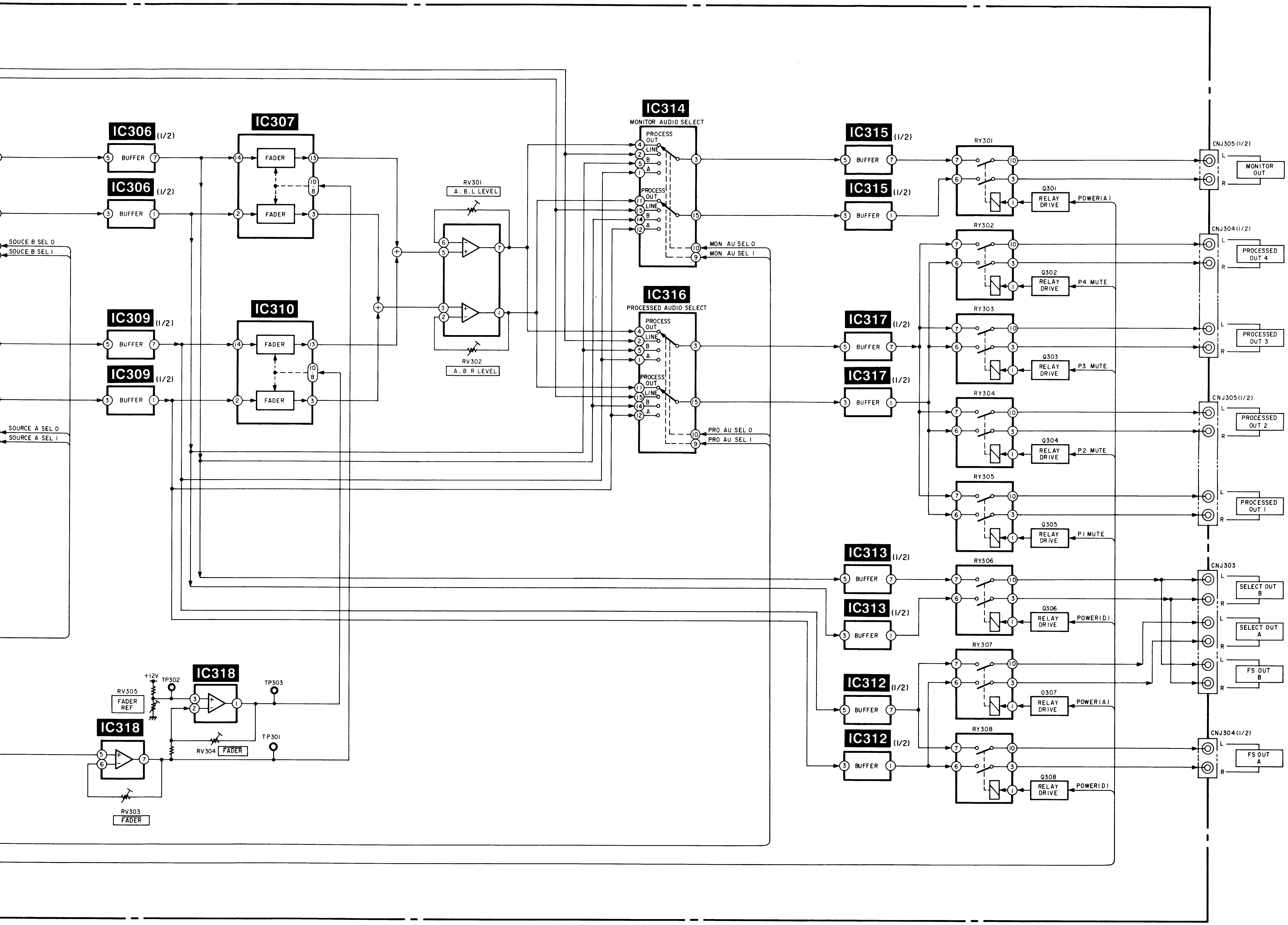
## 4-11. SYNC GENERATOR BLOCK DIAGRAM


CB-30 BOARD (1/2) (See Page 133)
SYNC GENERATOR
EXT KEY PULSE GENERATOR
EDIT MONITOR SUB PICTURE SELECTOR/ENCODER
EXT Y/C SIGNAL GENERATOR
(See Page 151)
TS-122 BOARD (1/3)
S501 PHASE 180° 0°
RV506 H PHASE
RV505 SC PHASE
W502
CN100
H PHASE
SC PHASE 0/180
VIDEO IN (TS-126) EXT
W109
Q101 BUFFER
4.43MHz TRAP
Q108~111 AMP
D104 SYNC-TIP CLAMP
IC101 SYNC SEP.
IC102 CLAMP PULSE GENERATOR
Q112 PEDESTAL CLAMP
Q113 BUFFER
Q114~116 SYNC LEVEL DETECT
IC103 SYNC SEP
IC104
IC101 (1/3)
IC129
EXT
6.3V
H
IC107 GEN LOCK DRIVER
SYNC
EXT/INT DETECT
FV,FH SEPARATOR
LALT R GENERATOR
PHASE COMPARATOR
PHASE COMPARATOR
CLK EXT VR FV FH LALT R H COM INT EXT SC INT SC SC COM
TIME CONSTANT
IC115 PHASE SHIFT MMV
4.43MHz BPF
AMP Q102~104
CLAMP Q105~107
IC108 (1/3)
LPF
TP104
Q119 X102,D107 14.1875MHz VCXO
CV102 FCK
TP103
17.734MHz VCXO
Q118, X101, D106
CV101 FSC
IC109 SYNC GENERATOR
EXT VR LALT R CK 4FSC
CK OUT BF SYNC O/E BLKG LALT HD VD FH H COM I FSC
IC116
C.BLK GENERATOR
IC034
4.9V
IC108 (1/3)
IC114 (1/2) DUTY CONTROL MMV
IC113 (1/2) DUTY ERROR AMP
TIME CONSTANT
IC113 (1/2) PHASE ERROR AMP
TIME CONSTANT
IC114 (1/2) PHASE SHIFT MMV
RVD
5.5V
235ns
IC127 (1/2) MMV
IC112 (1/2) MMV
RV110 CH A POSITION
HDR A
IC127 (1/2) MMV
IC112 (1/2) MMV
RV109 CHB POSITION
HDR B
BF SYNC BLKG LALT RHD
IC126 EXT Y GENERATOR
3.40V 2.98V 3.78V
Q131 BUFFER
EXT KEY
EXT KEY FLM M
W113
SYNC
HD
BLKG
PAL P (LALT)
BF
SC
ANALOG PROCESS-I (PP-10)
EXT KEY ORG
EXT KEY LEVEL
INT/EXT
CLK(908FH)
BFP
SYNC
O/E
C BLKG
LALT (PAL P)
RHD
RVD
O/E
SC
SYSTEM CONTROL (CB-30(1/2))
IC121 (1/2) MMV
BLK
RHD
DIGITAL PROCESS-IA (DP-40A)
CN111
SY A
SRY A
SBY A
FLM A
DIGITAL PROCESS-IB (DP-40B)
CN112
SY B
SRY B
SBY B
FLM B
IC118 (1/3)
IC117 (1/3)
IC118 (1/3)
IC117 (1/3)
IC118 (1/3)
IC117 (1/3)
EN
Q124 BUFFER
DL101 DELAY
FL118 LPF
Q125,126 AMP
TP109
RV102 Y LEVEL
0.08V
0.1V
0.07V
TP107
Q121 BUFFER
FL117 LPF
Q122,123 AMP
RV101 R-Y LEVEL
0.08V
TP108
Q127 BUFFER
FL119 LPF
Q128,129 AMP
RV103 B-Y LEVEL
IC125 EDIT MONITOR SUB PICTURE CHROMA ENCODER
CLAMP
BFP MIX
MOD
CLAMP
BFP MIX
MOD
GATE PULSE
CLAMP PULSE
BLKG
RHD
LALT
RV106 BURST LEVEL
RV107 BURST LEVEL
RV105 CARRIEAR BALANCE
RV104 CARRIEAR BALANCE
IC120 (1/3)
IC120 (1/3)
8.1V
0.04V
23ns
RV108 CHROMA LEVEL
4.43MHz BPF GD 140μsec
Q133 BUFFER
IC128
BURST GATE
Q123 BUFFER
IC124 FREQENCY DIVIDER 1/4
IC123 WAVE SHAPER
Q130,X103,D108 4fsc VCXO
CV001 VCO FO
LPF
IC122 PHASE COMRARATOR
IC115 (1/2) PHASE SHIFT
RV001 EDIT PHASE
IC120 (1/3)
BF 8,9 10
W114
EXT Y
Y MEM SUB
C MEM SUB
EXT C
CLAMP
E FRAME
VIDEO OUT (TS-126)
0.1V
IC119 (1/3)
DELAY
IC119 (1/3)
E FLAM
1V
0.6V
0.6V
0.7V
H

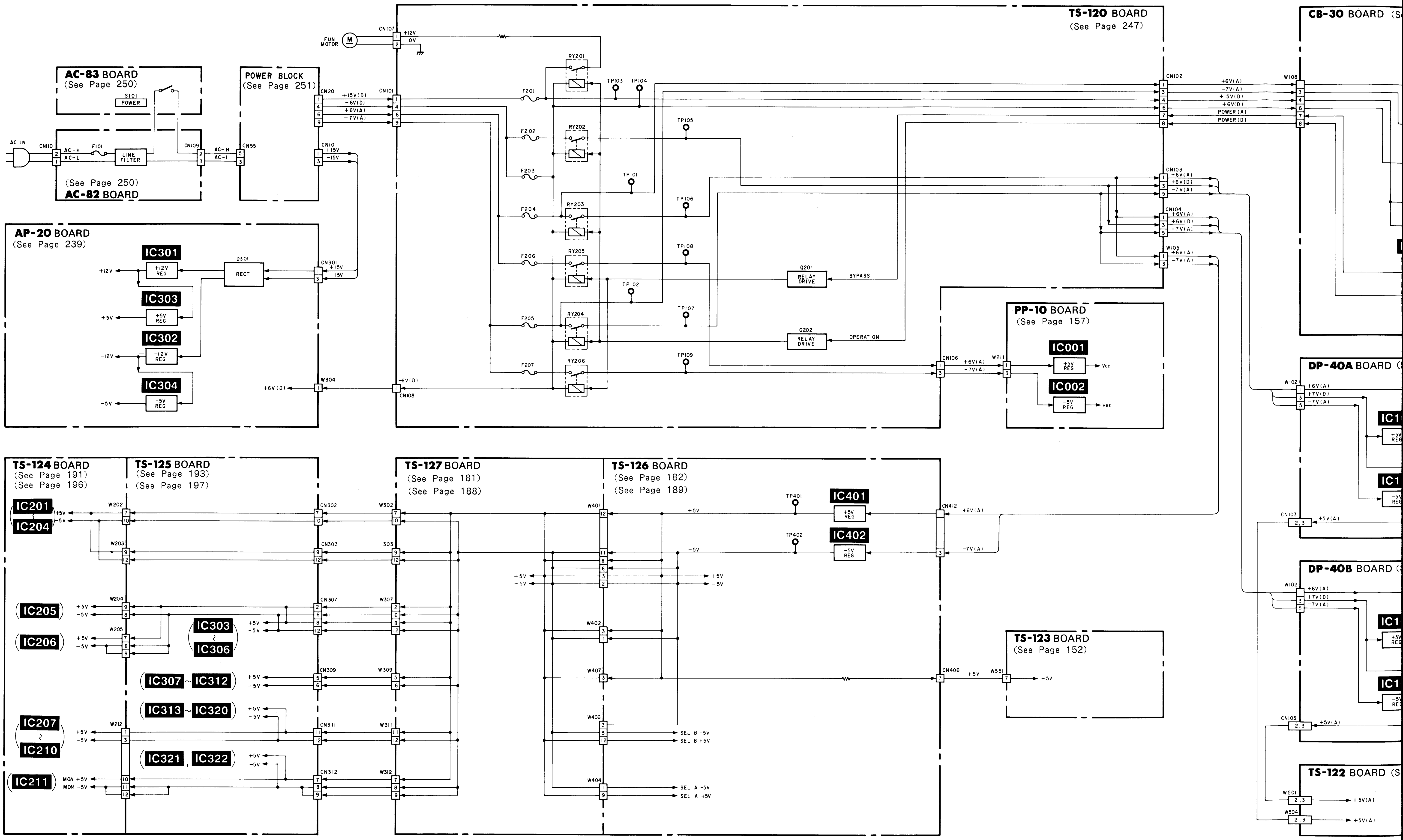
## 4-12. AUDIO BLOCK DIAGRAM

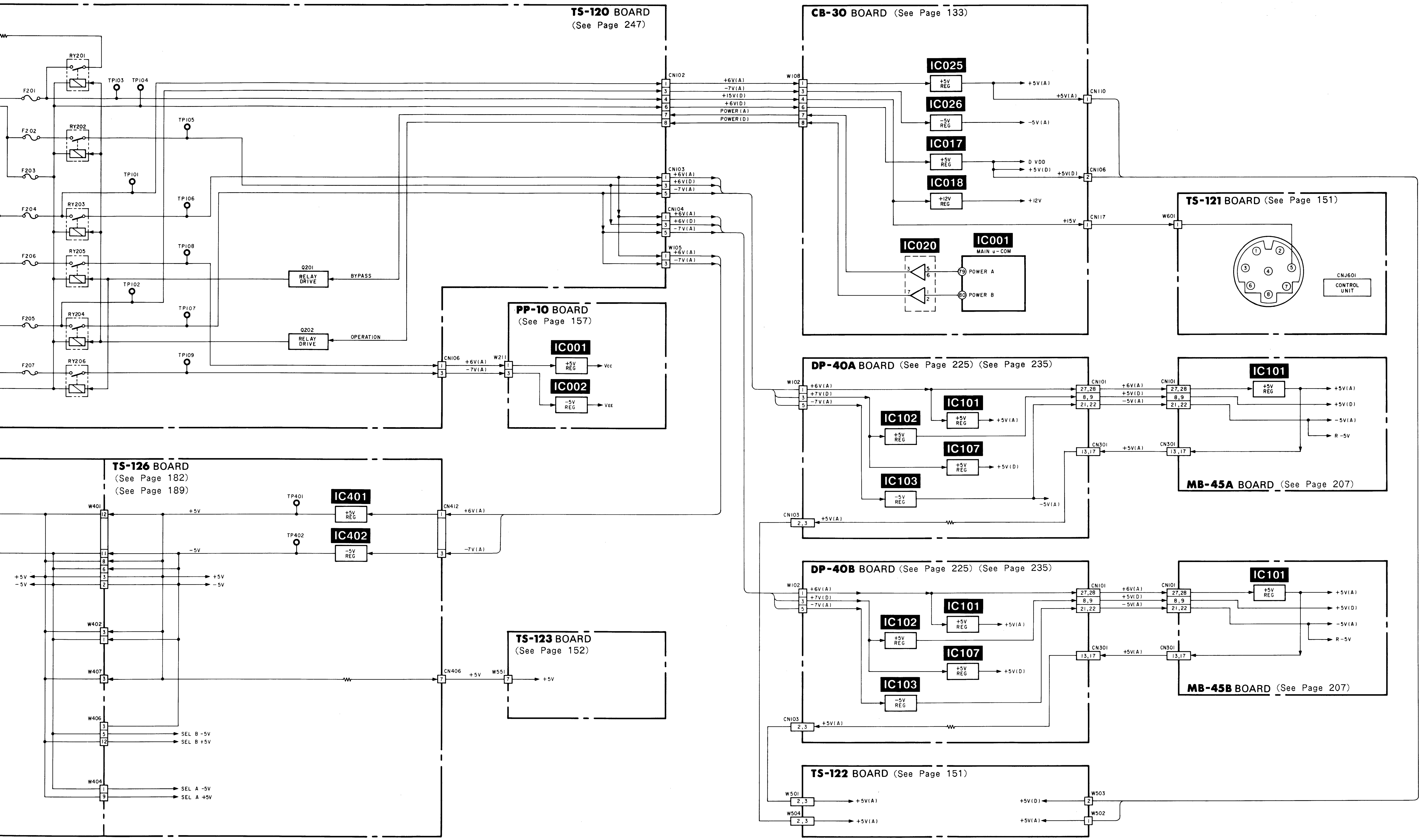


AP-20 BOARD (See Page 239)
CNJ301
AUDIO AUX IN
AUDIO SOURCE IN 4
CNJ302
AUDIO SOURCE IN 3
AUDIO SOURCE IN 2
AUDIO SOURCE IN 1
L
R
RY309
Q309
RELAY DRIVE
IC305
SOURCE B SELECT
SOUCE B SEL 0
SOUCE B SEL 1
IC308
SOURCE A SELECT
SOURCE A SEL 0
SOURCE A SEL 1
IC306 (1/2)
BUFFER
IC307
FADER
IC309 (1/2)
IC310
RV301
A. B. L LEVEL
RV302
A. B. R LEVEL
IC314
MONITOR AUDIO SELECT
PROCESS OUT
LINE
B
A
MON AU SEL 0
MON AU SEL 1
IC316
PROCESSED AUDIO SELECT
PRO AU SEL 0
PRO AU SEL 1
IC315 (1/2)
IC317 (1/2)
IC313 (1/2)
IC312 (1/2)
(See Page 152)
TS-123 BOARD (1/2)
CNJ551 (1/2)
AUDIO SOURCE INPUT 4
CN552
4CH L
4CH R
FRONT 4CH
W305
S552
INPUT SELECT
FRONT
REAR
W302
SYSTEM CONTROL (CB-30)
FADER KEY
SOURCE B SEL 0
SOURCE B SEL 1
SOURCE A SEL 0
SOURCE A SEL 1
+12V
TP302
RV305
FADER REF
IC318
TP303
TP301
RV304 FADER
RV303 FADER
W303
PRO AU SEL 0
PRO AU SEL 1
MON AU SEL 0
MON AU SEL 1
POWER A
POWER G
P4 MUTE
P3 MUTE
P2 MUTE
P1 MUTE


IC306 (1/2)
BUFFER
IC306 (1/2)
BUFFER
IC307
FADER
FADER
SOUCE B SEL 0
SOUCE B SEL 1
IC309 (1/2)
BUFFER
IC309 (1/2)
BUFFER
IC310
FADER
FADER
SOURCE A SEL 0
SOURCE A SEL 1
RV301
A. B. L LEVEL
RV302
A. B R LEVEL
IC314
MONITOR AUDIO SELECT
PROCESS OUT
LINE
B
A
MON AU SEL 0
MON AU SEL 1
IC316
PROCESSED AUDIO SELECT
PROCESS OUT
LINE
B
A
PRO AU SEL 0
PRO AU SEL 1
IC315 (1/2)
BUFFER
IC315 (1/2)
BUFFER
IC317 (1/2)
BUFFER
IC317 (1/2)
BUFFER
IC313 (1/2)
BUFFER
IC313 (1/2)
BUFFER
IC312 (1/2)
BUFFER
IC312 (1/2)
BUFFER
RY301
Q301
RELAY DRIVE
POWER(A)
RY302
Q302
RELAY DRIVE
P4 MUTE
RY303
Q303
RELAY DRIVE
P3 MUTE
RY304
Q304
RELAY DRIVE
P2 MUTE
RY305
Q305
RELAY DRIVE
P1 MUTE
RY306
Q306
RELAY DRIVE
POWER(D)
RY307
Q307
RELAY DRIVE
POWER(A)
RY308
Q308
RELAY DRIVE
POWER(D)
CNJ305 (1/2)
MONITOR OUT
CNJ304 (1/2)
PROCESSED OUT 4
PROCESSED OUT 3
CNJ305 (1/2)
PROCESSED OUT 2
PROCESSED OUT 1
CNJ303
SELECT OUT B
SELECT OUT A
FS OUT B
CNJ304 (1/2)
FS OUT A
L
R
+12V
TP302
RV305
FADER REF
IC318
TP303
RV304
FADER
TP301
IC318
RV303
FADER

# 4-13. POWER BLOCK DIAGRAM

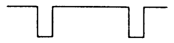

AC-83 BOARD
(See Page 250)
S101
POWER
AC IN
CN110
AC-H
AC-L
F101
LINE FILTER
CN109
(See Page 250)
AC-82 BOARD
POWER BLOCK
(See Page 251)
CN55
CN20
+15V(D)
-6V(D)
+6V(A)
-7V(A)
CN10
+15V
-15V
FUN MOTOR
CN107
+12V
0V
CN101
TS-120 BOARD
(See Page 247)
RY201
RY202
RY203
RY204
RY205
RY206
F201
F202
F203
F204
F205
F206
F207
TP101
TP102
TP103
TP104
TP105
TP106
TP107
TP108
TP109
Q201
RELAY DRIVE
BYPASS
Q202
RELAY DRIVE
OPERATION
CN102
+6V(A)
-7V(A)
+15V(D)
+6V(D)
POWER(A)
POWER(D)
CN103
CN104
W105
CN106
CN108
+6V(D)
AP-20 BOARD
(See Page 239)
IC301
+12V REG
IC303
+5V REG
IC302
-12V REG
IC304
-5V REG
D301
RECT
CN301
W304
+12V
+5V
-12V
-5V
PP-10 BOARD
(See Page 157)
W211
IC001
+5V REG
Vcc
IC002
-5V REG
VEE
CB-30 BOARD
W108
DP-40A BOARD
DP-40B BOARD
W102
+7V(D)
CN103
+5V(A)
TS-122 BOARD
W501
W504
TS-124 BOARD
(See Page 191)
(See Page 196)
TS-125 BOARD
(See Page 193)
(See Page 197)
IC201 ~ IC204
IC205
IC206
IC207 ~ IC210
IC211
MON +5V
MON -5V
W202
W203
W204
W205
W212
IC303 ~ IC306
IC307 ~ IC312
IC313 ~ IC320
IC321, IC322
CN302
CN303
CN307
CN309
CN311
CN312
TS-127 BOARD
(See Page 181)
(See Page 188)
W302
303
W307
W309
W311
W312
TS-126 BOARD
(See Page 182)
(See Page 189)
W401
W402
W407
W406
W404
TP401
TP402
IC401
+5V REG
IC402
-5V REG
CN412
CN406
SEL B -5V
SEL B +5V
SEL A -5V
SEL A +5V
TS-123 BOARD
(See Page 152)
W551


TS-120 BOARD
(See Page 247)
RY201
RY202
RY203
RY204
RY205
RY206
F201
F202
F203
F204
F205
F206
F207
TP101
TP102
TP103
TP104
TP105
TP106
TP107
TP108
TP109
Q201
RELAY DRIVE
BYPASS
Q202
RELAY DRIVE
OPERATION
CN102
+6V(A)
-7V(A)
+15V(D)
+6V(D)
POWER(A)
POWER(D)
CN103
CN104
W105
+6V(D)
-7V(A)
PP-10 BOARD
(See Page 157)
CN106
W211
IC001
+5V REG
Vcc
IC002
-5V REG
VEE
TS-126 BOARD
(See Page 182)
(See Page 189)
W401
TP401
IC401
TP402
IC402
CN412
+5V
-5V
W402
W407
CN406
W551
W406
SEL B -5V
SEL B +5V
W404
SEL A -5V
SEL A +5V
TS-123 BOARD
(See Page 152)
CB-30 BOARD (See Page 133)
W108
IC025
+5V REG
+5V(A)
IC026
-5V REG
-5V(A)
IC017
D VDD
+5V(D)
IC018
+12V REG
+12V
CN110
CN106
CN117
+15V
IC020
IC001
MAIN u-COM
POWER A
POWER B
TS-121 BOARD (See Page 151)
W601
CNJ601
CONTROL UNIT
DP-40A BOARD (See Page 225) (See Page 235)
W102
+7V(D)
CN101
27,28
8,9
21,22
IC101
IC102
IC107
IC103
-5V REG
CN301
13,17
CN103
2,3
MB-45A BOARD (See Page 207)
R -5V
DP-40B BOARD (See Page 225) (See Page 235)
MB-45B BOARD (See Page 207)
TS-122 BOARD (See Page 151)
W501
W504
W503
W502

## 4-14. MAIN MICROPROCESSOR PIN FUNCTION (IC001 CXP50116 ON CB-30 BOARD)

| Pin No. | Signal Name | I/O | Function |
|---|---|---|---|
| 1 | BSC R | O | Back color select signal. |
| 2 | BSC G | O | |
| 3 | BSC B | O | |
| 4 | SOLA/C.RING | O | Solarization/coloring select signal. "L" coloring |
| 5–28 | | | Not used. |
| 29 | RVD | I | Memory read side VD signal.<br>Data communication reference signal. |
| 30 | TX | O | Not used. |
| 31 | TEX | I | Connected to GND. |
| 32 | $\overline{\text{RST}}$ | I | Reset signal. "L" reset |
| 33 | | | Not used. |
| 34 | VDD | | +5V |
| 35 | GPI | I | GPI pulse input. |
| 36 | $\overline{\text{LOOP CUT ON}}$ | I | OUTPUT MODE switch input. "H" LINE "L" REC OUT |
| 37 | SW EN A | O | Connected to memory microprocessor. (Not used.) |
| 38 | SE EN B | O | |
| 39, 40 | | | Not used. |
| 41 | C.COR SEL A | O | LINE A color correct ON/OFF signal.<br>"L" normal<br>"H" color correct, coloring and solarization. |
| 42 | C.COR SEL B | O | LINE B color correct ON/OFF signal.<br>"L" normal<br>"H" color correct, coloring and solarization. |
| 43 | $\overline{\text{EC}}$ | I | Not used. |
| 44 | SCK | O | Serial data transfer clock. } Serial communication signal for control unit. |
| 45 | SO | O | Serial data output. |
| 46 | SI | I | Serial data input. |
| 47 | MEM μ CS | O | Chip select signal to memory microprocessor. V period pulse. |
| 48 | WIPE CLK | O | Data transfer clock signal to wipe microprocessor. |
| 49 | MEM μ BUSY | I | Communication control signal between main microprocessor and memory microprocessor. V period "H" pulse train.<br>"H" indicates that memory microprocessor can not read data. |
| 50 | | | Not used. |
| 51 | A0 | O | Transfer data demultiplex signal to extension output port and key signal generating circuit. (Indicates type of transfer data.) |
| 52 | A1 | O | |
| 53 | A2 | O | |
| 54 | A3 | O | |
| 55 | INT | O | Interrupt request signal to control unit. Used to control serial communication.<br>V period "H" pulse train. |
| 56 | BEGIN | O | Indicates serial communication start to control unit.<br>V period "H" pulse. |
| 57 | $\overline{\text{C COR KEY EN}}$ | O | Color correct enable signal. "L" color correct "H" other than above |
| 58 | DVE DATA STB | O | Not used. |
| 59 | MEM μ CLK | O | Data transfer clock signal to memory microprocessor. |

| BSC R | L | H | L | H | L | H | L | H |
|---|---|---|---|---|---|---|---|---|
| BSC G | L | L | H | H | L | L | H | H |
| BSC B | L | L | L | L | H | H | H | H |
| Back color | Black | Red | Green | Yellow | Blue | Magenta | Cyan | White |

| Pin No. | Signal Name | I/O | Function |
|---|---|---|---|
| 60 | WIPE CS | O | Chip select signal to wipe microprocessor. V period pulse.  |
| 61, 62 | | | Not used. |
| 63 | BUS D0 | O | 8-bit parallel data to memory microprocessor, wipe microprocessor, extension output port and key signal generating circuit. |
| 64 | BUS D1 | O | |
| 65 | BUS D2 | O | |
| 66 | BUS D3 | O | |
| 67 | BUS D4 | O | |
| 68 | BUS D5 | O | |
| 69 | BUS D6 | O | |
| 70 | BUS D7 | O | |
| 71 | Vss | | GND |
| 72 | XTAL | O | Clock oscillation circuit. (4.19 MHz) |
| 74 | EXTAL | I | |
| 73, 76 | | | Not used. |
| 75 | V REF | I | Reference voltage input. Not used. |
| 77 | EXP WR | O | Data write request signal to extension output port. V period pulse. |
| 78 | EXP CS | O | Chip select signal to extension output port. V period pulse. |
| 79 | POWER A | O | Power control signal. Inverted signal is used as muting signal. |
| 80 | POWER D | O | |

| Mode | STANDBY | BYPASS | OPERATION |
|---|---|---|---|
| POWER A | L | H | H |
| POWER D | L | L | H |

## 4-15. EXTENSI

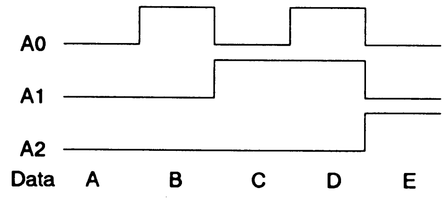
| Pin No. | |
|---|---|
| 1, 2 | NC |
| 64 | PRO |
| 3 | PRO |
| 4 | $\overline{\text{N}}$/P |
| 5 | SOF |
| 6 | SOF |
| 7 | MON |
| 8 | MON |
| 9 | MON |
| 10 | Vss |
| 11 | $\overline{\text{N}}$/P |
| 12 | BC |
| 13 | BC |
| 14 | $\overline{\text{C.K}}$ |
| 15 | TRN |
| 16 | TRN |
| 59 | TRN |
| 17 | MON |
| 18 | MON |
| 19 | P1 M |
| 20 | P2 M |
| 21 | P3 M |
| 22 | P4 M |
| 25 | Vss |
| 26 | VDD |
| 24 | B.C |
| 27 | B.C |

cessor, extension output

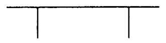
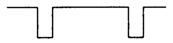
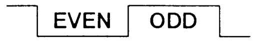
ulse.

## 4-15. EXTENSION OUTPUT PORT PIN FUNCTION (IC002 CXD1095Q ON CB-30 BOARD)

<table>
<tr><th>Pin No.</th><th>Signal Name</th><th>I/O</th><th>Function</th></tr>
<tr><td>1, 2</td><td>NC</td><td></td><td>Not used.</td></tr>
<tr><td>64</td><td>PRO AU SEL 0</td><td>O</td><td rowspan="2">Audio processed out select signal<table><tr><td>PRO AU SEL 0</td><td>L</td><td>H</td><td>L</td><td>H</td></tr><tr><td>PRO AU SEL 1</td><td>L</td><td>L</td><td>H</td><td>H</td></tr><tr><td>Output signal</td><td>LINE A input signal</td><td>LINE B input signal</td><td>AUX IN input signal</td><td>Fader output signal</td></tr></table></td></tr>
<tr><td>3</td><td>PRO AU SEL 1</td><td>O</td></tr>
<tr><td>4</td><td>$\overline{\text{N/P}}$ B</td><td>O</td><td>LINE B. Negative/positive select signal. "L" negative</td></tr>
<tr><td>5</td><td>SOFT-A</td><td>O</td><td>LINE A. Soft focus ON/OFF signal. "H" ON</td></tr>
<tr><td>6</td><td>SOFT-B</td><td>O</td><td>LINE B. Soft focus ON/OFF signal. "H" ON</td></tr>
<tr><td>7</td><td>MON SEL 0</td><td>O</td><td rowspan="3">Video monitor out select signal.<table><tr><td>MON SEL 0</td><td>L</td><td>H</td><td>L</td><td>H</td><td>–</td></tr><tr><td>MON SEL 1</td><td>L</td><td>L</td><td>H</td><td>H</td><td>–</td></tr><tr><td>MON SEL 2</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>Output signal</td><td>LINE A output signal</td><td>LINE B output signal</td><td>Super vision signal</td><td>Linear gate output signal</td><td>EXT KEY signal</td></tr></table></td></tr>
<tr><td>8</td><td>MON SEL 1</td><td>O</td></tr>
<tr><td>9</td><td>MON SEL 2</td><td>O</td></tr>
<tr><td>10</td><td>Vss</td><td></td><td>GND</td></tr>
<tr><td>11</td><td>$\overline{\text{N/P}}$ A</td><td>O</td><td>LINE A. Negative/positive select signal. "L" negative</td></tr>
<tr><td>12</td><td>BC B ON</td><td>O</td><td>LINE B. Back color ON/OFF signal. "H" ON</td></tr>
<tr><td>13</td><td>BC A ON</td><td>O</td><td>LINE A. Back color ON/OFF signal. "H" ON</td></tr>
<tr><td>14</td><td>$\overline{\text{C.KEY ON}}$</td><td>O</td><td>Chromakey ON/OFF signal. "L" ON</td></tr>
<tr><td>15</td><td>TRNS SEL 2</td><td>O</td><td rowspan="3"><table><tr><td>TRNS SEL 2</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td><td>H</td><td>H</td><td>H</td></tr><tr><td>TRNS SEL 1</td><td>L</td><td>L</td><td>H</td><td>H</td><td>L</td><td>L</td><td>H</td><td>H</td></tr><tr><td>TRNS SEL 0</td><td>L</td><td>H</td><td>L</td><td>H</td><td>L</td><td>H</td><td>L</td><td>H</td></tr><tr><td>Linear gate control select signal</td><td>PINP B</td><td>PINP A</td><td>EXT KEY</td><td>FADER</td><td>WIPE</td><td>SOLA FADE B</td><td>SOLA FADE A</td><td>CHROMA KEY</td></tr></table></td></tr>
<tr><td>16</td><td>TRNS SEL 1</td><td>O</td></tr>
<tr><td>59</td><td>TRNS SEL 0</td><td>O</td></tr>
<tr><td>17</td><td>MON AU SEL 0</td><td>O</td><td rowspan="2">Linear gate control select signal.<table><tr><td>MON AU SEL 0</td><td>L</td><td>H</td><td>L</td><td>H</td></tr><tr><td>MON AU SEL 1</td><td>L</td><td>L</td><td>H</td><td>H</td></tr><tr><td>Output signal</td><td>LINE A input signal</td><td>LINE B input signal</td><td>AUX IN input signal</td><td>Fader output signal</td></tr></table></td></tr>
<tr><td>18</td><td>MON AU SEL 1</td><td>O</td></tr>
<tr><td>19</td><td>P1 MUTE</td><td>O</td><td rowspan="4">Audio monitor out select signal.<br>Loop cut ON/OFF signal. "H" mutes processed out signal of designated unit.<br>Valid when output mode of main unit is set to REC out.<br>Prevents creation of video and audio signal loops when the same VCR (video tape recorder) is connected to source IN and processed OUT terminals.</td></tr>
<tr><td>20</td><td>P2 MUTE</td><td>O</td></tr>
<tr><td>21</td><td>P3 MUTE</td><td>O</td></tr>
<tr><td>22</td><td>P4 MUTE</td><td>O</td></tr>
<tr><td>25</td><td>Vss</td><td></td><td>GND</td></tr>
<tr><td>26</td><td>VDD</td><td></td><td>+5V</td></tr>
<tr><td>24</td><td>B.C KEY SEL A0</td><td>O</td><td rowspan="2">LINE A. Back color key select signal.<table><tr><td>B.C KEY SEL A0</td><td>L</td><td>H</td><td>L</td><td>H</td></tr><tr><td>B.C KEY SEL A1</td><td>L</td><td>L</td><td>H</td><td>H</td></tr><tr><td>Key signal</td><td>MULTI FRAM A</td><td>P IN P KEY A</td><td>BOADER A</td><td>BC A ON</td></tr></table></td></tr>
<tr><td>27</td><td>B.C KEY SEL A1</td><td>O</td></tr>
</table>

<table>
<tr><th>Pin No.</th><th>Signal Name</th><th>I/O</th><th>Function</th></tr>
<tr><td>28</td><td>B.C KEY SEL B0</td><td>O</td><td rowspan="2">LINE B. Back color key select signal.<table><tr><td>B.C KEY SEL B0</td><td>L</td><td>H</td><td>L</td><td>H</td></tr><tr><td>B.C KEY SEL B1</td><td>L</td><td>L</td><td>H</td><td>H</td></tr><tr><td>Key signal</td><td>MULTI FRAM B</td><td>P IN P KEY B</td><td>BOADER B</td><td>BC B ON</td></tr></table></td></tr>
<tr><td>29</td><td>B.C KEY SEL B1</td><td>O</td></tr>
<tr><td>30</td><td>D0</td><td>I</td><td rowspan="8">8-bit parallel data from main microprocessor.</td></tr>
<tr><td>31</td><td>D1</td><td>I</td></tr>
<tr><td>32</td><td>D2</td><td>I</td></tr>
<tr><td>35</td><td>D3</td><td>I</td></tr>
<tr><td>36</td><td>D4</td><td>I</td></tr>
<tr><td>37</td><td>D5</td><td>I</td></tr>
<tr><td>38</td><td>D6</td><td>I</td></tr>
<tr><td>39</td><td>D7</td><td>I</td></tr>
<tr><td>33, 34, 40, 41</td><td></td><td></td><td>Not used.</td></tr>
<tr><td>42</td><td>Vss</td><td></td><td>GND</td></tr>
<tr><td>43</td><td>$\overline{\text{WR}}$</td><td>I</td><td>Data write pulse from main microprocessor.</td></tr>
<tr><td>44</td><td>$\overline{\text{RD}}$</td><td>I</td><td>Fixed at +5V.</td></tr>
<tr><td>45</td><td>$\overline{\text{CS}}$</td><td>I</td><td>Chip select signal from main microprocessor.</td></tr>
<tr><td>46</td><td>A0</td><td>I</td><td rowspan="3">Transfer data demultipulex signal from main microprocessor.<br> </td></tr>
<tr><td>47</td><td>A1</td><td>I</td></tr>
<tr><td>48</td><td>A2</td><td>I</td></tr>
<tr><td>49</td><td>SHADOW</td><td>O</td><td>EXT key shadow ON/OFF signal. "H" ON</td></tr>
<tr><td>50</td><td>EDGE</td><td>O</td><td>EXT key edge ON/OFF signal. "H" ON</td></tr>
<tr><td>51</td><td></td><td></td><td>Not used.</td></tr>
<tr><td>52</td><td>EXT/$\overline{\text{INT}}$</td><td>O</td><td>EXT lock select signal. "H" external "L" internal</td></tr>
<tr><td>53</td><td>$\overline{\text{KEY REV}}$</td><td>O</td><td>EXT and chromakey polarity select signal. "L" reverse "H" normal</td></tr>
<tr><td>54</td><td>SOURSE B SEL 0</td><td>O</td><td rowspan="2">LINE B input (video and audio) select signal.<table><tr><td>SOURSE B SEL 0</td><td>L</td><td>H</td><td>L</td><td>H</td></tr><tr><td>SOURSE B SEL 1</td><td>L</td><td>L</td><td>H</td><td>H</td></tr><tr><td>LINE B input signal</td><td>SOURCE IN 1</td><td>SOURCE IN 2</td><td>SOURCE IN 3</td><td>SOURCE IN 4</td></tr></table></td></tr>
<tr><td>55</td><td>SOURCE B SEL 1</td><td>O</td></tr>
<tr><td>56</td><td>BORDER B</td><td>O</td><td>Not used.</td></tr>
<tr><td>57</td><td>Vss</td><td></td><td>GND</td></tr>
<tr><td>58</td><td>VDD</td><td></td><td>+5V</td></tr>
<tr><td>60</td><td>SOURCE A SEL 0</td><td>O</td><td rowspan="2">LINE A input (video and audio) select signal.<table><tr><td>SOURSE A SEL 0</td><td>L</td><td>H</td><td>L</td><td>H</td></tr><tr><td>SOURSE A SEL 1</td><td>L</td><td>L</td><td>H</td><td>H</td></tr><tr><td>LINE A input signal</td><td>SOURCE IN 1</td><td>SOURCE IN 2</td><td>SOURCE IN 3</td><td>SOURCE IN 4</td></tr></table></td></tr>
<tr><td>61</td><td>SOURCE A SEL 1</td><td>O</td></tr>
<tr><td>62</td><td>BORDER A</td><td>O</td><td>Not used.</td></tr>
</table>

## 4-16. WIPE MICROPROCESSOR PIN FUNCTION (IC003 μPD78322GJ ON CB-30 BOARD)

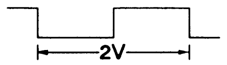
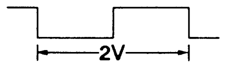
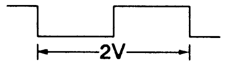
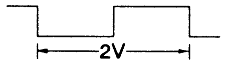
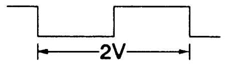
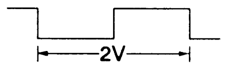
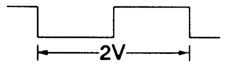
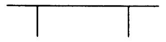
| Pin No. | Signal Name | I/O | Function |
|---|---|---|---|
| 72 | GD0 | O | 10-bit parallel data to WPG (wipe gate array).<br>Indicates wipe pattern and position, etc.<br>WPG generates wipe key pulse according to the data. |
| 73 | GD1 | O | |
| 74 | GD2 | O | |
| 1 | GD3 | O | |
| 2 | GD4 | O | |
| 3 | GD5 | O | |
| 4 | GD6 | O | |
| 5 | GD7 | O | |
| 70 | GD8 | O | |
| 69 | GD9 | O | |
| 6 | BUS D0 | I | 8-bit parallel data from main microprocessor. |
| 7 | BUS D1 | I | |
| 8 | BUS D2 | I | |
| 9 | BUS D3 | I | |
| 10 | BUS D4 | I | |
| 11 | BUS D5 | I | |
| 13 | BUS D6 | I | |
| 14 | BUS D7 | I | |
| 12 | | | Not used. |
| 15 | VDD | | +5V |
| 16 | Vss | | GND |
| 17–18 | | | Connected to GND. |
| 19 | | | Not used. |
| 20–26 | | | Connected to GND. |
| 27, 28 | VDD | | +5V |
| 29 | | | Connected to +5V. |
| 30 | RVD | I | Video memory read side VD signal.<br>For wipe key pulse generation.  |
| 31 | H BLK | I | Video memory read side "H" blanking signal.<br>For wipe key pulse generation.  |
| 32 | WIPE CLK | I | Data transfer clock signal from main microprocessor. |
| 33 | WIPE CS | I | Chip select signal from main microprocessor. V period pulse. |
| 34 | PAL/$\overline{\mathrm{NTSC}}$ | I | PAL/NTSC select. Fixed at "H" level. |
| 35 | $\overline{\mathrm{INT}}$/EXT | I | INT/EXT select. Fixed at "H" level. |
| 36 | REVEN | I | Video memory read side even/odd field discrimination signal.  |
| 37 | | | Not used. |
| 38 | STB1 | O | Data transfer strobe signal to WPG (wipe gate array). |
| 39 | STB2 | O | Data transfer strobe signal to WPG. |
| 40 | KEY SEL | O | WIPE signal selection. "L" when heart and star patterns are selected.<br>"H" when other than above. |
| 41 | KEY START SEL | O | Wipe key start signal selection. "H" BFP "L" $\overline{\mathrm{CBLK}}$ |
| 42 | SOFT KEY SEL | O | Wipe edge select signal. "L" hard or border "H" soft |
| 43 | | | Not used. |
| 44–49 | | | Connected to GND. |
| 50 | $\overline{\mathrm{RESET}}$ | I | Reset signal. "L" reset |

| Pin No. | Signal Name | I/O | Function |
|---|---|---|---|
| 51 | | | Clock oscillation circuit. (16 MHz) |
| 52 | | | |
| 53 | | | Not used. |
| 54 | | | Connected to GND. |
| 55 | | O | Reset signal. "L" reset. |
| 57 | | | Not used. |
| 56 | SHA0 | O | Soft edge data to WPG (wipe gate array). |
| 58 | SHA1 | O | |
| 59 | SHA2 | O | |
| 60 | SHA3 | O | |
| 61 | SPEC | O | Control signal to WPG. |
| 62 | REP | O | |
| 63 | SOFT | O | Control signal to WPG. |
| 64 | REV | O | |
| 65 | | | Connected to +5V. |
| 66 | | | Connected to GND. |
| 67, 71 | | | Not used. |
| 68 | INV | O | Wipe key inverting signal. "L" normal "H" reverse<br>(Valid only when soft edge.) |

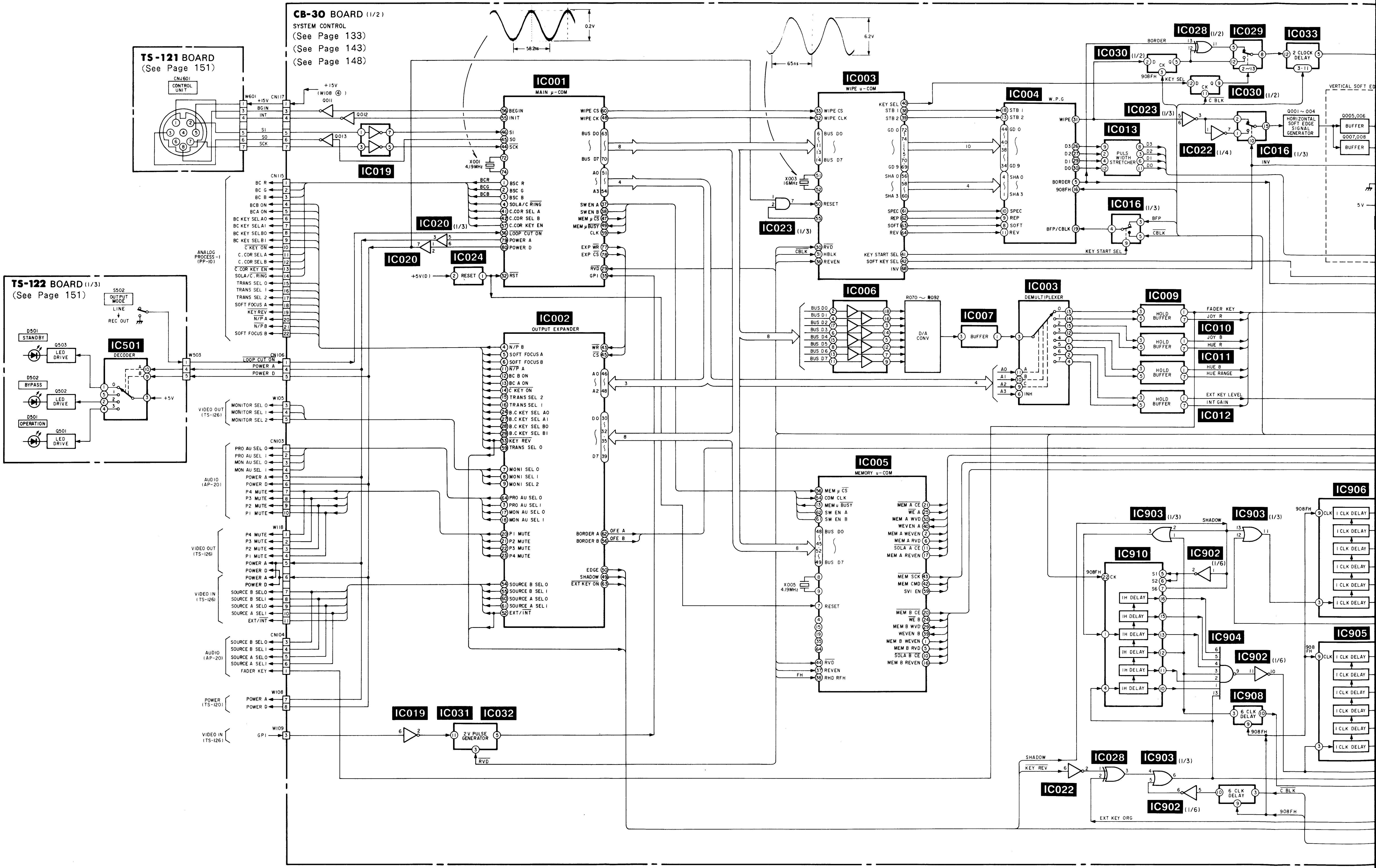
## 4-17. MEMORY MICR

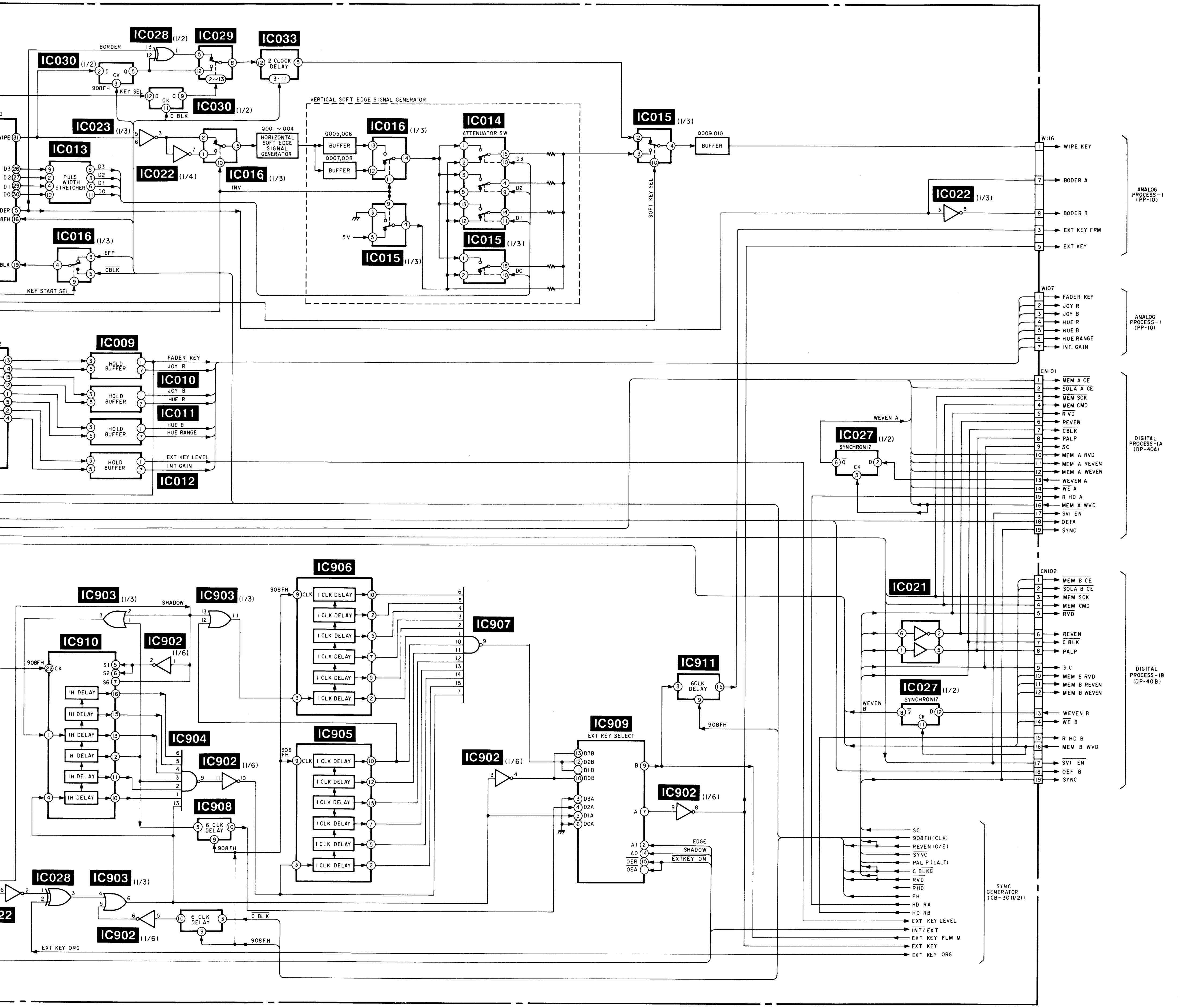
| Pin No. | Signal N |
|---|---|
| 1 | MEM B WEV |
| 2 | MEM A WEV |
| 3 | |
| 4 | |
| 5 | MEM B RVD |
| 6 | MEM A RVD |
| 7 | $\overline{\mathrm{RESET}}$ |
| 8 | |
| 9 | |
| 10 | $\overline{\mathrm{SOLA\ B\ CE}}$ |
| 11 | $\overline{\mathrm{SOLA\ A\ CE}}$ |
| 12, 14 | |
| 15 | |
| 16 | MEM B REV |
| 17 | MEM A REV |
| 18 | |
| 19 | |
| 20 | MEM B CE |
| 21 | MEM A CE |
| 22, 23 | |
| 24 | WE B |
| 25 | WE A |
| 26 | Vss |
| 27, 28 | |
| 29 | MEM B WVD |
| 30 | MEM A WVD |
| 31–34 | |
| 35 | |
| 36 | RHD RFH |
| 37 | REVEN |
| 38, 41 | |
| 39 | WEVEN B |
| 40 | WEVEN A |
| 42 | MEM CMD |
| 43 | MEM SCK |
| 44 | RVD |

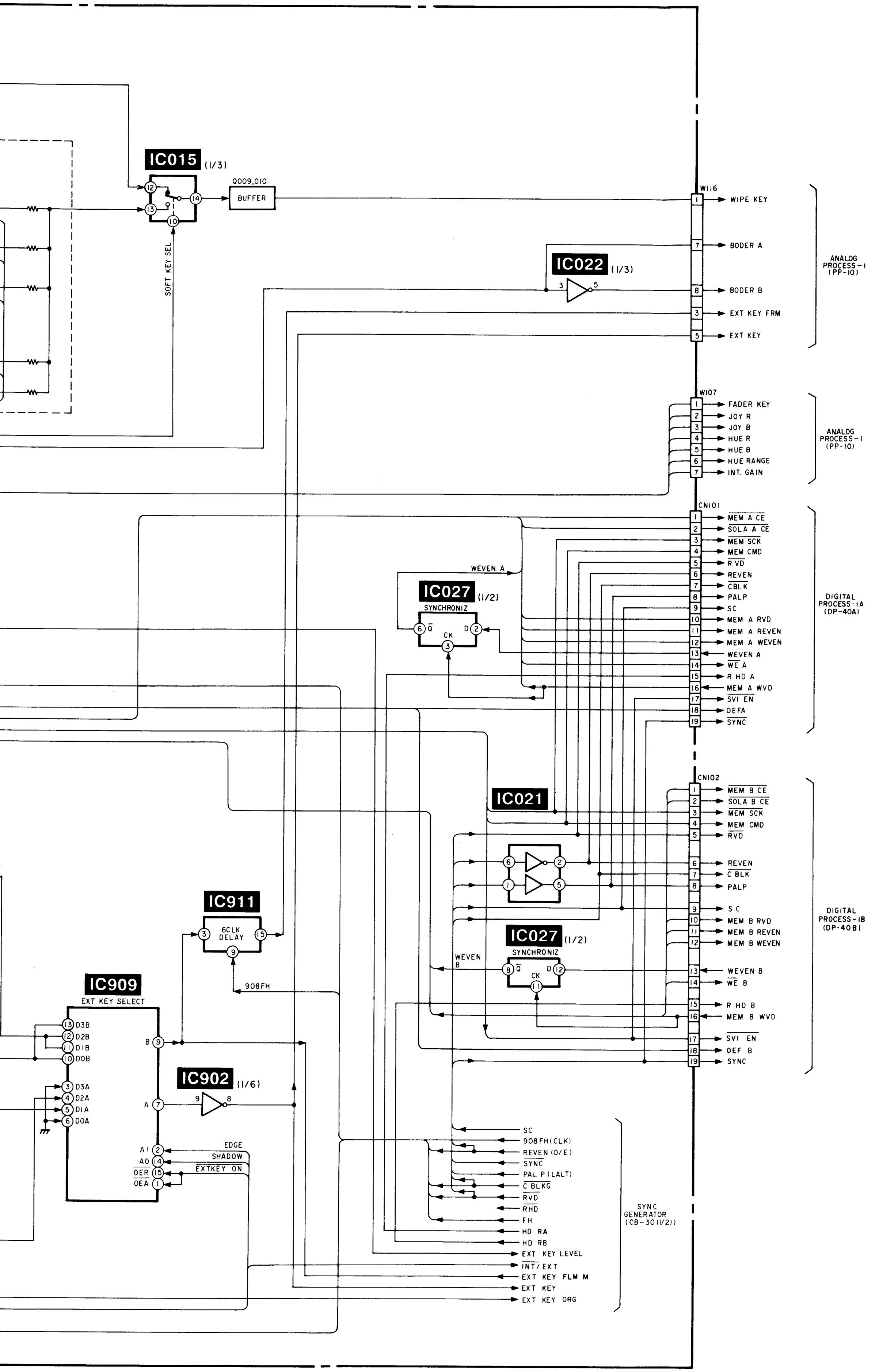
## 4-17. MEMORY MICROPROCESSOR PIN FUNCTION (IC005 μPD75104G ON CB-30 BOARD)

| Pin No. | Signal Name | I/O | Function |
|---|---|---|---|
| 1 | MEM B WEVEN | O | LINE B video memory write side even/odd field discrimination signal.  |
| 2 | MEM A WEVEN | O | LINE A video memory write side even/odd field discrimination signal.  |
| 3 | | | Not used. |
| 4 | | | TP001. Not used. |
| 5 | MEM B RVD | O | LINE B video memory write side VD signal. |
| 6 | MEM A RVD | O | LINE A video memory write side VD signal. |
| 7 | $\overline{\text{RESET}}$ | I | Reset signal. "L" reset |
| 8 | | | Clock oscillation circuit. (4.19 MHz) |
| 9 | | | |
| 10 | $\overline{\text{SOLA B CE}}$ | O | Chip enable signal to LINE B solarization gate array. |
| 11 | $\overline{\text{SOLA A CE}}$ | O | Chip enable signal to LINE A solarization gate array. |
| 12, 14 | | | Not used. |
| 15 | | | TP002. Not used. |
| 16 | MEM B REVEN | O | LINE B video memory read side even/odd field discrimination signal.  |
| 17 | MEM A REVEN | O | LINE A video memory read side even/odd field discrimination signal.  |
| 18 | | | Not used. |
| 19 | | | TP003. Not used. |
| 20 | MEM B CE | O | Chip enable signal to LINE B video memory controller. |
| 21 | MEM A CE | O | Chip enable signal to LINE A video memory controller. |
| 22, 23 | | | Not used. |
| 24 | WE B | O | LINE B video memory write enable signal. Not used. |
| 25 | WE A | O | LINE A video memory write enable signal. Not used. |
| 26 | Vss | | GND |
| 27, 28 | | | Not used. |
| 29 | MEM B WVD | I | LINE B video memory write side VD signal. |
| 30 | MEM A WVD | I | LINE A video memory write side VD signal. |
| 31–34 | | | Not used. |
| 35 | | | TP004. Not used. |
| 36 | RHD RFH | I | Video memory read side FH signal. |
| 37 | REVEN | I | Video memory read side even/odd field discrimination signal.  |
| 38, 41 | | | Not used. |
| 39 | WEVEN B | I | LINE B video memory write side even/odd field discrimination signal.  |
| 40 | WEVEN A | I | LINE A video memory write side even/odd field discrimination signal.  |
| 42 | MEM CMD | O | Serial data. Transfers command to LINE A and B video memory controller and solarization gate array. |
| 43 | MEM SCK | O | Serial data transfer clock. |
| 44 | RVD | I | Memory read side VD signal.  |
| 45 | BUS D3 | I | 8-bit parallel data from main microprocessor. |
| 46 | BUS D2 | I | |
| 47 | BUS D1 | I | |
| 48 | BUS D0 | I | |
| 49 | BUS D7 | I | |
| 50 | BUS D6 | I | |
| 51 | BUS D5 | I | |
| 52 | BUS D4 | I | |
| 53 | | | Not used. |
| 54 | COM CLK | I | Data transfer clock from main microprocessor. |
| 55 | EXT COMAND | I | Fixed at "H" level. |
| 56 | MEM μ CS | I | Chip select signal from main microprocessor. V period pulse. |
| 57 | | | Not used. |
| 58 | VDD | | +5V |
| 59 | $\overline{\text{SVI EN}}$ | O | Edit Monitor enable signal. "L" Edit Monitor ON "H" Edit Monitor OFF |
| 60 | | | Not used. |
| 61 | SW EN B | I | Not used. |
| 62 | SW EN A | I | Not used. |
| 63 | | | Not used. |
| 64 | | | TP005. Not used. |

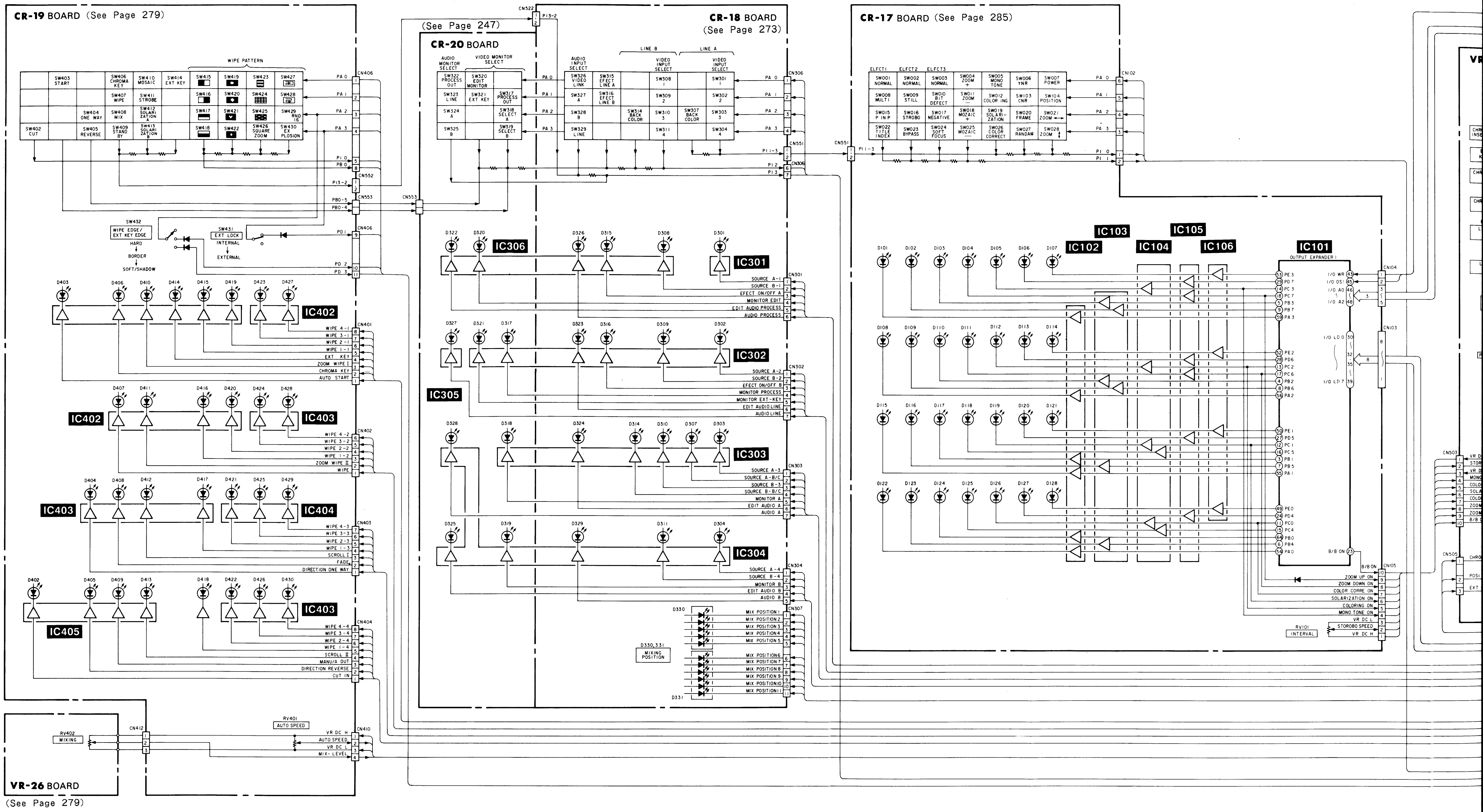
# 4-18. SYSTEM CONTROL BLOCK DIAGRAM

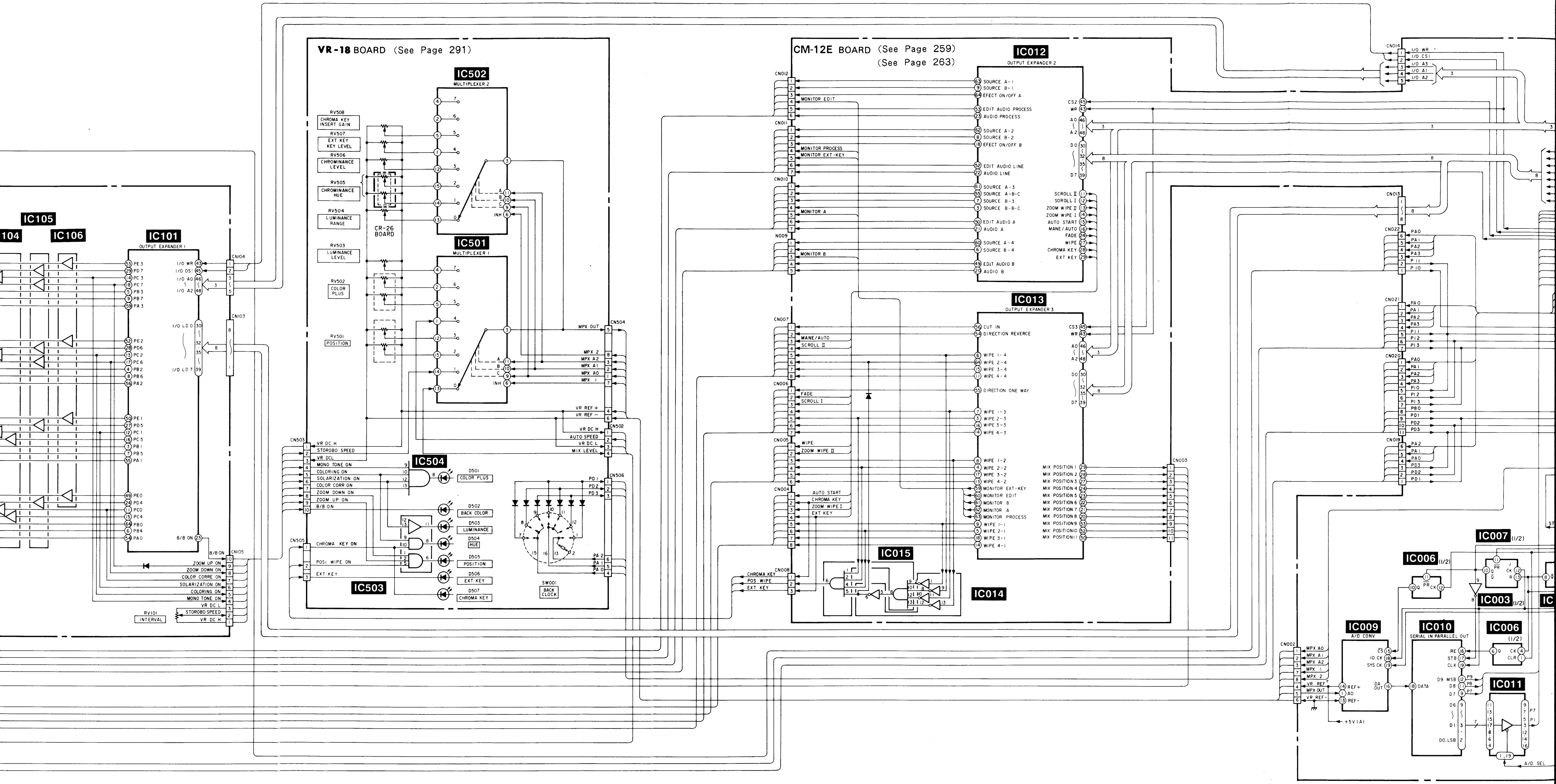

CB-30 BOARD (1/2)
SYSTEM CONTROL
(See Page 133)
(See Page 143)
(See Page 148)
TS-121 BOARD
(See Page 151)
CNJ601
CONTROL UNIT
W601
CN117
+15V
BGIN
INT
SI
SO
SCK
+15V
(W108 ④)
Q011
Q012
Q013
IC019
IC001
MAIN μ-COM
BEGIN
INIT
SI
SO
SCK
X001
4.19MHz
BSC R
BSC G
BSC B
SOLA/C RING
C.COR SEL A
C.COR SEL B
C.COR KEY EN
LOOP CUT ON
POWER A
POWER D
RST
WIPE CS
WIPE CK
BUS D0
BUS D7
A0
A3
SWEN A
SWEN B
MEM μ CS
MEM μ BUSY
CLK
EXP WR
EXP CS
RVD
GPI
0.2V
58.2ns
6.2V
65ns
IC020 (1/3)
IC020
IC024
RESET
+5V(D)
CN115
BC R
BC G
BC B
BCB ON
BCA ON
BC KEY SEL A0
BC KEY SEL A1
BC KEY SEL B0
BC KEY SEL B1
C KEY ON
C.COR SEL A
C.COR SEL B
C COR KEY EN
SOLA/C.RING
TRANS SEL 0
TRANS SEL 1
TRANS SEL 2
SOFT FOCUS A
KEY REV
N/P A
N/P B
SOFT FOCUS B
ANALOG PROCESS-I (PP-101)
TS-122 BOARD (1/3)
(See Page 151)
S502
OUTPUT MODE
LINE
REC OUT
D501
STANDBY
Q503
LED DRIVE
D502
BYPASS
Q502
LED DRIVE
D501
OPERATION
Q501
LED DRIVE
IC501
DECODER
+5V
W503
CN106
LOOP CUT ON
POWER A
POWER D
W105
MONITOR SEL 0
MONITOR SEL 1
MONITOR SEL 2
VIDEO OUT (TS-126)
CN103
PRO AU SEL 0
PRO AU SEL 1
MON AU SEL 0
MON AU SEL 1
POWER A
POWER D
P4 MUTE
P3 MUTE
P2 MUTE
P1 MUTE
AUDIO (AP-20)
W118
VIDEO OUT (TS-126)
VIDEO IN (TS-126)
SOURCE B SEL0
SOURCE B SEL1
SOURCE A SEL0
SOURCE A SEL1
EXT/INT
CN104
AUDIO (AP-20)
FADER KEY
W108
POWER (TS-120)
W109
VIDEO IN (TS-126)
GPI
IC002
OUTPUT EXPANDER
N/P B
SOFT FOCUS A
SOFT FOCUS B
N/P A
BC B ON
BC A ON
C KEY ON
TRANS SEL 2
TRANS SEL 1
B.C KEY SEL A0
B.C KEY SEL A1
B.C KEY SEL B0
B.C KEY SEL B1
KEY REV
TRANS SEL 0
MONI SEL 0
MONI SEL 1
MONI SEL 2
PRO AU SEL 0
PRO AU SEL 1
MON AU SEL 0
MON AU SEL 1
P1 MUTE
P2 MUTE
P3 MUTE
P4 MUTE
SOURCE B SEL 0
SOURCE B SEL 1
SOURCE A SEL 0
SOURCE A SEL 1
EXT/INT
WR
CS
A0
A2
D0
D7
BORDER A
BORDER B
OFE A
OFE B
EDGE
SHADOW
EXT KEY ON
IC019
IC031
IC032
2V PULSE GENERATOR
RVD
IC003
WIPE μ-COM
WIPE CS
WIPE CLK
BUS D0
BUS D7
X003
16MHz
RESET
IC023 (1/3)
RVD
CBLK
HBLK
REVEN
KEY SEL
STB 1
STB 2
GD 0
GD 9
SHA 0
SHA 3
SPEC
REP
SOFT
REV
KEY START SEL
SOFT KEY SEL
INV
IC004
W.P.G
STB 1
STB 2
GD 0
GD 9
SHA 0
SHA 3
SPEC
REP
SOFT
REV
WIPE
D3
D2
D1
D0
BORDER
908FH
BFP/CBLK
KEY START SEL
IC013
PULS WIDTH STRETCHER
IC016 (1/3)
BFP
CBLK
IC028 (1/2)
IC029
IC033
2 CLOCK DELAY
IC030 (1/2)
BORDER
KEY SEL
C BLK
IC023 (1/3)
IC022 (1/4)
IC016 (1/3)
INV
Q001~004
HORIZONTAL SOFT EDGE SIGNAL GENERATOR
Q005,006
Q007,008
BUFFER
VERTICAL SOFT ED
5V
IC006
BUS D0
BUS D7
R070 ~ R092
D/A CONV
IC007
BUFFER
IC003
DEMULTIPLEXER
A0
A1
A2
A3
INH
IC009
HOLD BUFFER
FADER KEY
JOY R
IC010
JOY B
HUE R
IC011
HUE B
HUE RANGE
EXT KEY LEVEL
INT GAIN
IC012
IC005
MEMORY μ-COM
MEM μ CS
COM CLK
MEM μ BUSY
SW EN A
SW EN B
BUS D0
BUS D7
X005
4.19MHz
RESET
RVD
REVEN
RHD RFH
FH
MEM A CE
WE A
MEM A WVD
WEVEN A
MEM A WEVEN
MEM A RVD
SOLA A CE
MEM A REVEN
MEM SCK
MEM CMD
SVI EN
MEM B CE
WE B
MEM B WVD
WEVEN B
MEM B WEVEN
MEM B RVD
SOLA B CE
MEM B REVEN
IC903 (1/3)
SHADOW
IC903 (1/3)
IC906
1 CLK DELAY
908FH
CLK
IC910
1H DELAY
IC902 (1/6)
IC904
IC902 (1/6)
IC908
6 CLK DELAY
IC905
SHADOW
KEY REV
IC028
IC903 (1/3)
IC022
IC902 (1/6)
6 CLK DELAY
C BLK
908FH
EXT KEY ORG

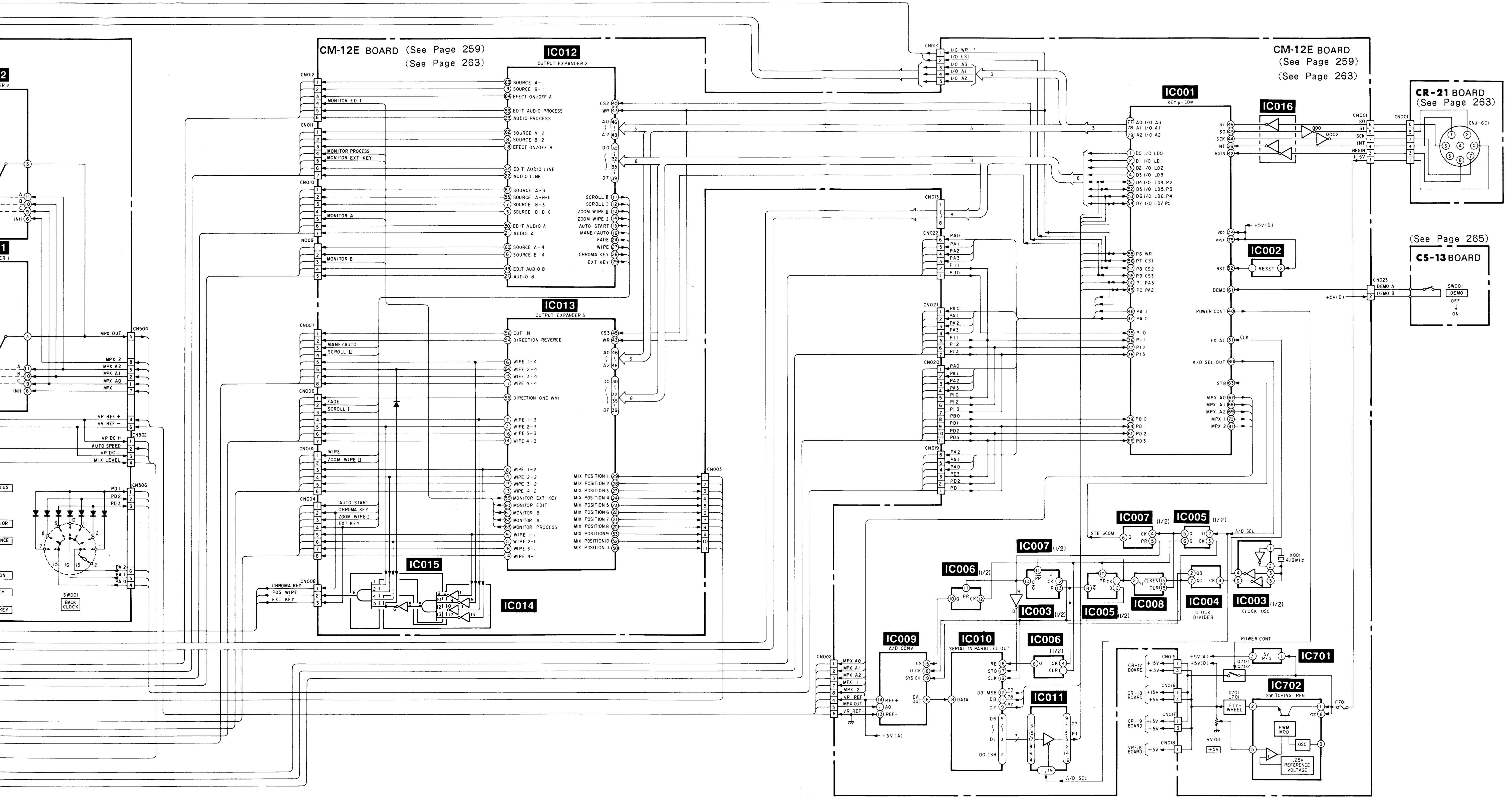

IC028 (1/2)
IC029
IC033
2 CLOCK DELAY
BORDER
IC030 (1/2)
908FH
KEY SEL
C BLK
VERTICAL SOFT EDGE SIGNAL GENERATOR
IC023 (1/3)
IC022 (1/4)
IC016 (1/3)
INV
Q001~004 HORIZONTAL SOFT EDGE SIGNAL GENERATOR
Q005,006 BUFFER
Q007,008 BUFFER
IC016 (1/3)
IC014 ATTENUATOR SW
IC015 (1/3)
5V
IC015 (1/3)
IC015 (1/3)
SOFT KEY SEL
Q009,010 BUFFER
IC013 PULS WIDTH STRETCHER
D3 D2 D1 D0
IC016 (1/3)
BFP
CBLK
KEY START SEL
IC009 HOLD BUFFER
FADER KEY
JOY R
IC010 HOLD BUFFER
JOY B
HUE R
IC011 HOLD BUFFER
HUE B
HUE RANGE
HOLD BUFFER
EXT KEY LEVEL
INT GAIN
IC012
W116
WIPE KEY
BODER A
BODER B
EXT KEY FRM
EXT KEY
ANALOG PROCESS-I (PP-10)
IC022 (1/3)
W107
FADER KEY
JOY R
JOY B
HUE R
HUE B
HUE RANGE
INT. GAIN
ANALOG PROCESS-I (PP-10)
CN101
MEM A CE
SOLA A CE
MEM SCK
MEM CMD
RVD
REVEN
CBLK
PALP
SC
MEM A RVD
MEM A REVEN
MEM A WEVEN
WEVEN A
WE A
R HD A
MEM A WVD
SVI EN
OEFA
SYNC
DIGITAL PROCESS-IA (DP-40A)
WEVEN A
IC027 (1/2) SYNCHRONIZ
IC021
CN102
MEM B CE
SOLA B CE
MEM SCK
MEM CMD
RVD
REVEN
C BLK
PALP
SC
MEM B RVD
MEM B REVEN
MEM B WEVEN
WEVEN B
WE B
R HD B
MEM B WVD
SVI EN
OEF B
SYNC
DIGITAL PROCESS-IB (DP-40B)
IC027 (1/2) SYNCHRONIZ
WEVEN B
IC906
1 CLK DELAY
908FH
IC903 (1/3)
SHADOW
IC903 (1/3)
IC907
IC910
IC902 (1/6)
1H DELAY
S1 S2 S6
IC904
IC902 (1/6)
IC905
IC908 6 CLK DELAY
IC911 6CLK DELAY
IC909 EXT KEY SELECT
D3B D2B D1B D0B D3A D2A D1A D0A
A1 A0 OER OEA
EDGE
SHADOW
EXTKEY ON
IC902 (1/6)
IC902 (1/6)
IC028
IC903 (1/3)
IC902 (1/6)
6 CLK DELAY
C BLK
EXT KEY ORG
SC
908FH(CLK)
REVEN (O/E)
SYNC
PAL P (LALT)
C BLKG
RVD
RHD
FH
HD RA
HD RB
EXT KEY LEVEL
INT/EXT
EXT KEY FLM M
EXT KEY
EXT KEY ORG
SYNC GENERATOR (CB-30 (1/2))


IC015 (1/3)
SOFT KEY SEL
Q009,010
BUFFER
IC022 (1/3)
IC027 (1/2)
SYNCHRONIZ
WEVEN A
IC021
IC911
6CLK DELAY
908FH
IC909
EXT KEY SELECT
D3B
D2B
D1B
D0B
D3A
D2A
D1A
D0A
A1
A0
OER
OEA
EDGE
SHADOW
EXTKEY ON
IC902 (1/6)
IC027 (1/2)
SYNCHRONIZ
WEVEN B
W116
WIPE KEY
BODER A
BODER B
EXT KEY FRM
EXT KEY
ANALOG PROCESS-I (PP-10)
W107
FADER KEY
JOY R
JOY B
HUE R
HUE B
HUE RANGE
INT. GAIN
ANALOG PROCESS-I (PP-10)
CN101
MEM A CE
SOLA A CE
MEM SCK
MEM CMD
R VD
REVEN
CBLK
PALP
SC
MEM A RVD
MEM A REVEN
MEM A WEVEN
WEVEN A
WE A
R HD A
MEM A WVD
SVI EN
OEFA
SYNC
DIGITAL PROCESS-IA (DP-40A)
CN102
MEM B CE
SOLA B CE
MEM SCK
MEM CMD
RVD
REVEN
C BLK
PALP
S.C
MEM B RVD
MEM B REVEN
MEM B WEVEN
WEVEN B
WE B
R HD B
MEM B WVD
SVI EN
OEF B
SYNC
DIGITAL PROCESS-IB (DP-40B)
SC
908FH(CLK)
REVEN(O/E)
SYNC
PAL P(LALT)
C BLKG
RVD
RHD
FH
HD RA
HD RB
EXT KEY LEVEL
INT/EXT
EXT KEY FLM M
EXT KEY
EXT KEY ORG
SYNC GENERATOR (CB-30(1/2))

## 4-19. CONTROL UNIT BLOCK DIAGRAM


CR-19 BOARD (See Page 279)
WIPE PATTERN
SW403 START
SW406 CHROMA KEY
SW410 MOSAIC
SW414 EXT KEY
SW415
SW419
SW423
SW427
SW407 WIPE
SW411 STROBE
SW416
SW420
SW424
SW428
SW404 ONE WAY
SW408 MIX
SW412 SOLARIZATION
SW417
SW421
SW425
SW429 RND 16
SW402 CUT
SW405 REVERSE
SW409 STAND BY
SW413 SOLARIZATION
SW418
SW422
SW426 SQUARE ZOOM
SW430 EX PLOSION
SW432
WIPE EDGE/ EXT KEY EDGE
HARD
BORDER
SOFT/SHADOW
SW431
EXT LOCK
INTERNAL
EXTERNAL
CN406
CN552
CN553
CN401
CN402
CN403
CN404
CN410
CN412
IC402
IC403
IC404
IC405
WIPE 4-1
WIPE 3-1
WIPE 2-1
WIPE 1-1
EXT KEY
ZOOM WIPE I
CHROMA KEY
AUTO START
ZOOM WIPE II
WIPE
SCROLL I
FADE
DIRECTION ONE WAY
SCROLL II
MANU/A OUT
DIRECTION REVERSE
CUT IN
VR-26 BOARD (See Page 279)
RV402 MIXING
RV401 AUTO SPEED
VR DC H
AUTO SPEED
VR DC L
MIX-LEVEL
CR-20 BOARD (See Page 247)
AUDIO MONITOR SELECT
VIDEO MONITOR SELECT
SW322 PROCESS OUT
SW320 EDIT MONITOR
SW323 LINE
SW321 EXT KEY
SW317 PROCESS OUT
SW324 A
SW318 SELECT A
SW325 B
SW319 SELECT B
CN522
CN553
IC301
IC302
IC303
IC304
IC305
IC306
CR-18 BOARD (See Page 273)
AUDIO INPUT SELECT
LINE B
LINE A
VIDEO INPUT SELECT
SW326 VIDEO LINK
SW315 EFECT LINE A
SW327 A
SW316 EFECT LINE B
SW328 B
SW314 BACK COLOR
SW307 BACK COLOR
SW329 LINE
SW308
SW309
SW310
SW311
SW301
SW302
SW303
SW304
CN306
CN551
CN301
CN302
CN303
CN304
CN307
SOURCE A-1
SOURCE B-1
EFECT ON/OFF A
MONITOR EDIT
EDIT AUDIO PROCESS
AUDIO PROCESS
SOURCE A-2
SOURCE B-2
EFECT ON/OFF B
MONITOR PROCESS
MONITOR EXT-KEY
EDIT AUDIO LINE
AUDIO LINE
SOURCE A-3
SOURCE A-B/C
SOURCE B-3
SOURCE B-B/C
MONITOR A
EDIT AUDIO A
AUDIO A
SOURCE A-4
SOURCE B-4
MONITOR B
EDIT AUDIO B
AUDIO B
D330,331 MIXING POSITION
MIX POSITION 1
MIX POSITION 2
MIX POSITION 3
MIX POSITION 4
MIX POSITION 5
MIX POSITION 6
MIX POSITION 7
MIX POSITION 8
MIX POSITION 9
MIX POSITION 10
MIX POSITION 11
CR-17 BOARD (See Page 285)
ELFCT1
ELFCT2
ELFCT3
SW001 NORMAL
SW002 NORMAL
SW003 NORMAL
SW004 ZOOM +
SW005 MONO TONE
SW006 YNR
SW007 POWER
SW008 MULTI
SW009 STILL
SW010 BIT DEFECT
SW011 ZOOM −
SW012 COLOR ING
SW103 CNR
SW104 POSITION
SW015 P IN P
SW016 STROBO
SW017 NEGATIVE
SW018 MOZAIC +
SW019 SOLARIZATION
SW020 FRAME
SW021 ZOOM
SW022 TITLE INDEX
SW023 BYPASS
SW024 SOFT FOCUS
SW025 MOZAIC −
SW026 COLOR CORRECT
SW027 RANDAM
SW028 ZOOM
CN102
CN104
CN103
CN105
IC101
OUTPUT EXPANDER I
IC102
IC103
IC104
IC105
IC106
I/O WR
I/O OS1
I/O A0
I/O A2
I/O LD0
I/O LD7
B/B ON
ZOOM UP ON
ZOOM DOWN ON
COLOR CORRE ON
SOLARIZATION ON
COLORING ON
MONO TONE ON
VR DC L
STOROBO SPEED
VR DC H
RV101 INTERVAL
CN503
CN505
PA 0
PA 1
PA 2
PA 3
PI 0
PI 1
PI 2
PI 3
PI 1-3
PI 3-2
PB 0
PB0-5
PB0-4
PD 1
PD 2
PD 3


VR-18 BOARD (See Page 291)
IC502
MULTIPLEXER 2
IC501
MULTIPLEXER 1
RV508 CHROMA KEY INSERT GAIN
RV507 EXT KEY KEY LEVEL
RV506 CHROMINANCE LEVEL
RV505 CHROMINANCE HUE
RV504 LUMINANCE RANGE
RV503 LUMINANCE LEVEL
RV502 COLOR PLUS
RV501 POSITION
CR-26 BOARD
MPX OUT
MPX 2
MPX A2
MPX A1
MPX A0
MPX 1
VR REF +
VR REF −
VR DC H
AUTO SPEED
VR DC L
MIX LEVEL
CN504
CN502
CN506
CN503
CN505
VR DC H
STOROBO SPEED
VR DCL
MONO TONE ON
COLORING ON
SOLARIZATION ON
COLOR CORR ON
ZOOM DOWN ON
ZOOM UP ON
B/B ON
IC504
D501 COLOR PLUS
D502 BACK COLOR
D503 LUMINANCE
D504 HUE
D505 POSITION
D506 EXT KEY
D507 CHROMA KEY
CHROMA KEY ON
POSI WIPE ON
EXT KEY
IC503
SW001 BACK CLOCK
PD1
PD2
PD3
PA2
PA1
PA0
IC105
104
IC106
IC101
OUTPUT EXPANDER 1
I/O WR
I/O OS1
I/O A0
I/O A2
I/O LD0
I/O LD7
B/B ON
CN104
CN103
CN105
ZOOM UP ON
ZOOM DOWN ON
COLOR CORRE ON
SOLARIZATION ON
COLORING ON
MONO TONE ON
VR DC L
STOROBO SPEED
VR DC H
RV101 INTERVAL
CM-12E BOARD (See Page 259)
(See Page 263)
IC012
OUTPUT EXPANDER 2
SOURCE A-1
SOURCE B-1
EFECT ON/OFF A
EDIT AUDIO PROCESS
AUDIO PROCESS
SOURCE A-2
SOURCE B-2
EFECT ON/OFF B
EDIT AUDIO LINE
AUDIO LINE
SOURCE A-3
SOURCE A-B-C
SOURCE B-3
SOURCE B-B-C
EDIT AUDIO A
AUDIO A
SOURCE A-4
SOURCE B-4
EDIT AUDIO B
AUDIO B
CS2
WR
A0
A2
D0
D7
SCROLL II
SCROLL I
ZOOM WIPE II
ZOOM WIPE I
AUTO START
MANE/AUTO
FADE
WIPE
CHROMA KEY
EXT KEY
CN012
CN011
CN010
N009
MONITOR EDIT
MONITOR PROCESS
MONITOR EXT-KEY
MONITOR A
MONITOR B
IC013
OUTPUT EXPANDER 3
CUT IN
DIRECTION REVERCE
WIPE 1-4
WIPE 2-4
WIPE 3-4
WIPE 4-4
DIRECTION ONE WAY
WIPE 1-3
WIPE 2-3
WIPE 3-3
WIPE 4-3
WIPE 1-2
WIPE 2-2
WIPE 3-2
WIPE 4-2
MONITOR EXT-KEY
MONITOR EDIT
MONITOR B
MONITOR A
MONITOR PROCESS
WIPE 1-1
WIPE 2-1
WIPE 3-1
WIPE 4-1
CS3
MIX POSITION 1
MIX POSITION 2
MIX POSITION 3
MIX POSITION 4
MIX POSITION 5
MIX POSITION 6
MIX POSITION 7
MIX POSITION 8
MIX POSITION 9
MIX POSITION 10
MIX POSITION 11
CN007
MANE/AUTO
SCROLL II
CN006
FADE
SCROLL I
CN005
WIPE
ZOOM WIPE II
CN004
AUTO START
CHROMA KEY
ZOOM WIPE I
EXT KEY
CN003
CN008
CHROMA KEY
POS WIPE
EXT KEY
IC015
IC014
CN014
I/O WR
I/O CS1
I/O A3
I/O A1
I/O A2
CN013
CN022
CN021
CN020
CN019
PA0
PA1
PA2
PA3
P11
P10
P12
P13
PB0
PD0
PD1
PD2
PD3
IC007 (1/2)
IC006 (1/2)
IC003 (1/2)
IC009
A/D CONV
IC010
SERIAL IN PARALLEL OUT
IC006 (1/2)
IC011
CN002
MPX A0
MPX A1
MPX A2
MPX 1
MPX 2
VR REF
MPX OUT
VR REF −
REF +
A0
REF −
CS
IO CK
SYS CK
DA OUT
DATA
RE
STB
CLK
D9 MSB
D8
D7
D6
D1
D0.LSB
+5V(A)
A/D SEL


CM-12E BOARD (See Page 259)
(See Page 263)
IC012
OUTPUT EXPANDER 2
IC013
OUTPUT EXPANDER 3
IC014
IC015
CN012
CN011
CN010
N009
CN007
CN006
CN005
CN004
CN008
CN003
MONITOR EDIT
MONITOR PROCESS
MONITOR EXT-KEY
MONITOR A
MONITOR B
MANE/AUTO
SCROLL II
FADE
SCROLL I
WIPE
ZOOM WIPE II
AUTO START
CHROMA KEY
ZOOM WIPE I
EXT KEY
POS WIPE
SOURCE A-1
SOURCE B-1
EFECT ON/OFF A
EDIT AUDIO PROCESS
AUDIO PROCESS
SOURCE A-2
SOURCE B-2
EFECT ON/OFF B
EDIT AUDIO LINE
AUDIO LINE
SOURCE A-3
SOURCE A-B-C
SOURCE B-3
SOURCE B-B-C
EDIT AUDIO A
AUDIO A
SOURCE A-4
SOURCE B-4
EDIT AUDIO B
AUDIO B
CS2
WR
A0
A2
D0
D7
SCROLL II
SCROLL I
ZOOM WIPE II
ZOOM WIPE I
AUTO START
MANE/AUTO
FADE
WIPE
CHROMA KEY
EXT KEY
CUT IN
DIRECTION REVERCE
WIPE 1-4
WIPE 2-4
WIPE 3-4
WIPE 4-4
DIRECTION ONE WAY
WIPE 1-3
WIPE 2-3
WIPE 3-3
WIPE 4-3
WIPE 1-2
WIPE 2-2
WIPE 3-2
WIPE 4-2
MONITOR EXT-KEY
MONITOR EDIT
MONITOR B
MONITOR A
MONITOR PROCESS
WIPE 1-1
WIPE 2-1
WIPE 3-1
WIPE 4-1
CS3
MIX POSITION 1
MIX POSITION 2
MIX POSITION 3
MIX POSITION 4
MIX POSITION 5
MIX POSITION 6
MIX POSITION 7
MIX POSITION 8
MIX POSITION 9
MIX POSITION 10
MIX POSITION 11
CN504
MPX OUT
MPX 2
MPX A2
MPX A1
MPX A0
MPX 1
INH
VR REF +
VR REF −
CN502
VR DC H
AUTO SPEED
VR DC L
MIX LEVEL
CN506
PD 1
PD 2
PD 3
PA 2
PA 1
PA 0
SW001
BACK CLOCK
CN014
I/O WR
I/O CS1
I/O A3
I/O A1
I/O A2
CM-12E BOARD
(See Page 259)
(See Page 263)
IC001
KEY µ-COM
A0 I/O A3
A1 I/O A1
A2 I/O A2
D0 I/O LD0
D1 I/O LD1
D2 I/O LD2
D3 I/O LD3
D4 I/O LD4.P2
D5 I/O LD5.P3
D6 I/O LD6.P4
D7 I/O LD7 P5
P6 WR
P7 CS1
P8 CS2
P9 CS3
P1 PA3
P0 PA2
PA 1
PA 0
P10
P11
P12
P13
PB 0
PD 1
PD 2
PD 3
SI
SO
SCK
INT
BGIN
VDD
VREF
+5V(D)
RST
DEMO
POWER CONT
EXTAL
CLK
A/D SEL OUT
STB
MPX A0
MPX A1
MPX A2
MPX 1
MPX 2
IC002
RESET
IC016
Q001
Q002
CN001
SO
SI
SCK
INT
BEGIN
+15V
CR-21 BOARD
(See Page 263)
CNJ-601
(See Page 265)
CS-13 BOARD
CN023
DEMO A
DEMO B
SW001
DEMO
OFF
ON
CN013
CN022
CN021
CN020
CN019
PA0
PA1
PA2
PA3
P11
P10
P12
P13
PB0
PD1
PD2
PD3
IC007 (1/2)
IC005 (1/2)
STB µCOM
A/D SEL
IC006 (1/2)
IC007 (1/2)
IC003 (1/2)
IC005 (1/2)
IC008
IC004
CLOCK DIVIDER
IC003 (1/2)
CLOCK OSC
X001
4.19MHz
CLKEN
CLR
QB
QD
CN002
MPX A0
MPX A1
MPX A2
MPX 1
MPX 2
VR REF+
MPX OUT
VR REF−
IC009
A/D CONV
CS
IO CK
SYS CK
DA OUT
REF+
A0
REF−
+5V(A)
IC010
SERIAL IN PARALLEL OUT
RE
STB
CLK
DATA
D9 MSB
D8
D7
D6
D1
D0.LSB
IC006 (1/2)
IC011
A/D SEL
POWER CONT
IC701
5V REG
+5V(A)
+5V(D)
Q701
Q702
CN015
CR-17 BOARD
CN016
CR-18 BOARD
CN017
CR-19 BOARD
CN018
VR-18 BOARD
+15V
+5V
D701
L701
FLY-WHEEL
RV701
IC702
SWITCHING REG
PWM MOD
OSC
1.25V REFERENCE VOLTAGE
F701
VCC

## 4-20. CONTROL UNIT KEY MICROPROCESSOR PIN FUNCTION (IC001 CXP-5056H-656Q ON CM-12E BOARD)

| Pin No. | Signal Name | I/O | Function |
|---|---|---|---|
| 1 | I/O D0 | O | Output data to output expander (bit 0, LSB). |
| 2 | I/O D1 | O | Output data to output expander (bit 1, LSB). |
| 3 | I/O D2 | O | Output data to output expander (bit 2, LSB). |
| 4 | I/O D3 | O | Output data to output expander (bit 3, LSB). |
| 5<br>↓<br>28 | | | NC<br>↓<br>NC |
| 29 | INT | I | Communication request pulse signal (1 byte) from unit. |
| 30 | XTAL | | Not used. |
| 31 | EXTAL | I | Microprocessor clock input. (4.19 MHz) |
| 32 | RST | I | Microprocessor reset terminal. "L" reset |
| 33 | | | NC |
| 34 | VDD | | Power (+5V) |
| 35 | PI 0 | I | Key scanning (tact SW) matrix input.<br>Six values input<br>5.0V (Without key input)<br>3.8V<br>2.9V<br>2.1V<br>1.2V<br>0.0V |
| 36 | PI 1 | I | Key scanning (tact SW) matrix input. |
| 37 | PI 2 | I | Key scanning (tact SW) matrix input. |
| 38 | PI 3 | I | Key scanning (tact SW) matrix input. |
| 39 | PB 0 | I | Key scanning (tact SW) matrix input. |
| 40 | LED POWER | O | Display LED power ON/OFF control. "H" ON. |
| 41 | MPX 2 | O | A/D converting control VR select signal.<br>"H" inhibit multiplexer 2 (IC502 on VR-18 board) output. |
| 42 | BEGIN | I | Communication initial signal from main unit. |
| 43 | | | NC |
| 44 | SC | O | Communication clock output with main unit. |
| 45 | SO | I | Communication data (serial) from main unit. |
| 46 | SI | O | Communication data (serial) to main unit. |
| 47 | PA 0 | O | Key scanning output. |
| 48 | PA 1 | O | Key scanning output. |
| 49 | PA 2/AD D0 | I/O | Key scanning output/A/D converted data input (bit 0). |
| 50 | PA 3/AD D1 | I/O | Key scanning output/A/D converted data input (bit 1). |
| 51 | I/O D4/AD D2 | I/O | Output data to output expander (bit 4)/A/D converted data input (bit 2). |
| 52 | I/O D5/AD D3 | I/O | Output data to output expander (bit 5)/A/D converted data input (bit 3). |
| 53 | I/O D6/AD D4 | I/O | Output data to output expander (bit 6)/A/D converted data input (bit 4). |
| 54 | I/O D7/AD D5 | I/O | Output data to output expander (bit 7)/A/D converted data input (bit 5). |
| 55 | WR/AD D6 | I/O | Data write pulse to output EXP (expander)/A/D converted data input (bit 6). |
| 56 | CS 1/AD D7 | I/O | Data transfer and select signal to output EXP (CR-17 and IC101)/<br>A/D converted data input (bit 7). |
| 57 | CS 2/AD D8 | I/O | Data transfer and select signal to output EXP (CM-12 and IC012)/<br>A/D converted data input (bit 8). |
| 58 | CS 3/AD D9 | I/O | Data transfer and select signal to output EXP (CM-12 and IC013)/<br>A/D converted data input (bit 9). |
| 59 | | | NC |
| 61 | DEMO MODE | I | Demonstration mode select input. "H" demonstration mode |
| 62 | | | NC |
| 63 | A/D STB | I | Data set completion flag from A/D conversion block. |
| 64 | PD 1 | I | Key scaning (slide and rotary SW) input. |
| 65 | PD 2 | I | Key scaning (slide and rotary SW) input. |

| Pin No. | Signal Name | I/O | Function |
|---|---|---|---|
| 66 | PD 3 | I | Key scaning (slide and rotary SW) input. |
| 67 | MPX A0 | O | A/D converting control VR select signal.<br>(Controls multiplexer 1 and 2) |
| 68 | MPX A1 | O | |
| 69 | MPX A2 | O | |
| 70 | MPX 1 | O | A/D converting control VR select signal.<br>"H" Inhibit multiplexer 1 (IC501 on VR-18 board) output. |
| 71 | Vss | | Power (GND) |
| 72 | | | NC |
| 73 | | | NC |
| 74 | TEX | | (VDD) |
| 75 | V REF | | (VDD) |
| 76 | V FDP | | NC |
| 77 | EXP A0 | O | Output expander outputs. Select signal A0. |
| 78 | EXP A1 | O | Output expander outputs. Select signal A1. |
| 79 | EXP A2 | O | Output expander outputs. Select signal A2. |
| 80 | A/D SEL | O | Data request flag for A/D conversion block. |

# SECTION 5

# PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

## 5-1. FRAME SCHEMATIC DIAGRAM —MAIN UNIT—

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For printed wiring boards :

- o— : indicates a lead wire mounted on the componet side.
- •— : indicates a lead wire mounted on the printed side.
- ● : Through hole.
- ■ : Pattern from the side which enables seeing.
- ■ : Pattern of the rear side. ✱

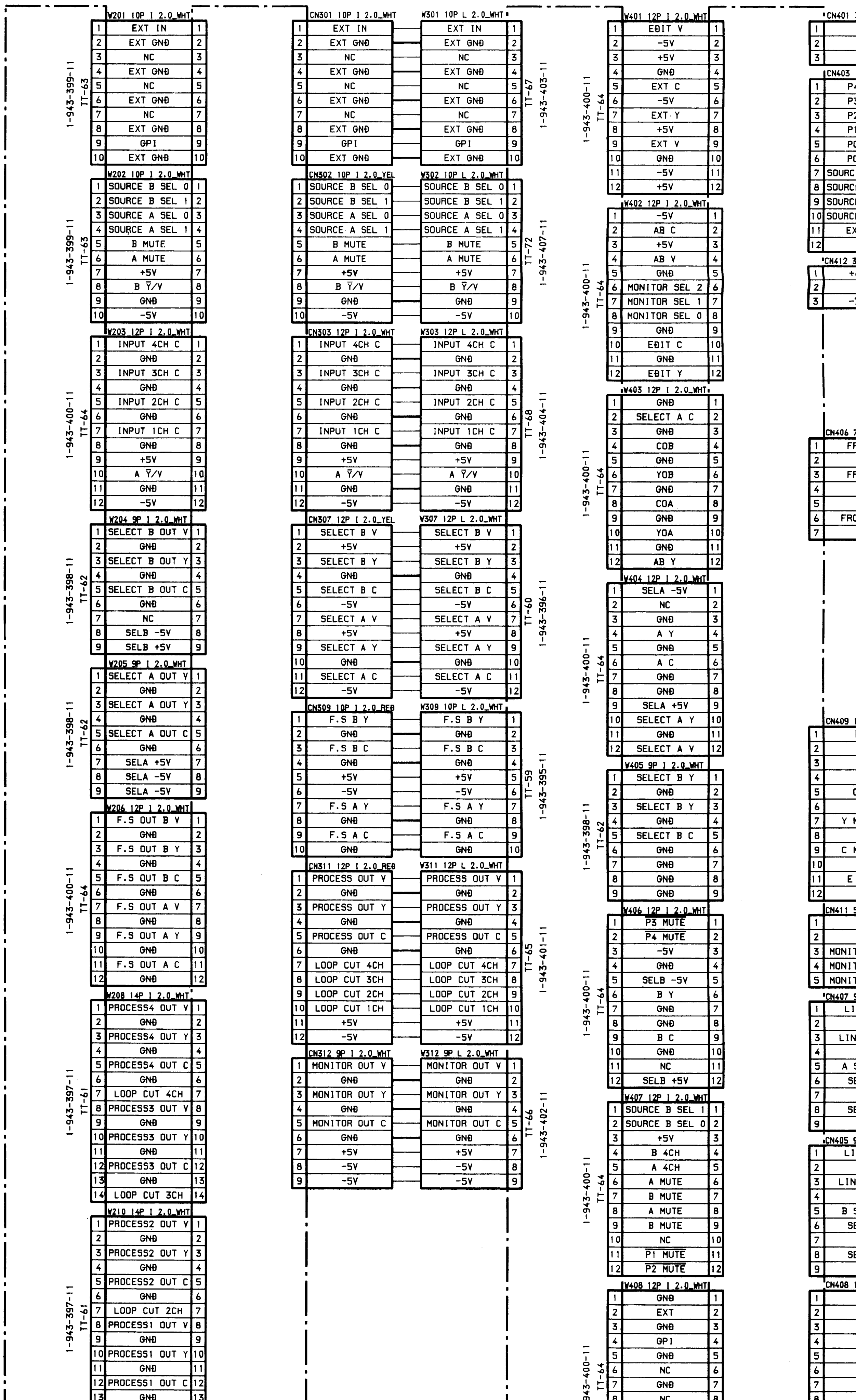
For schematic diagram :

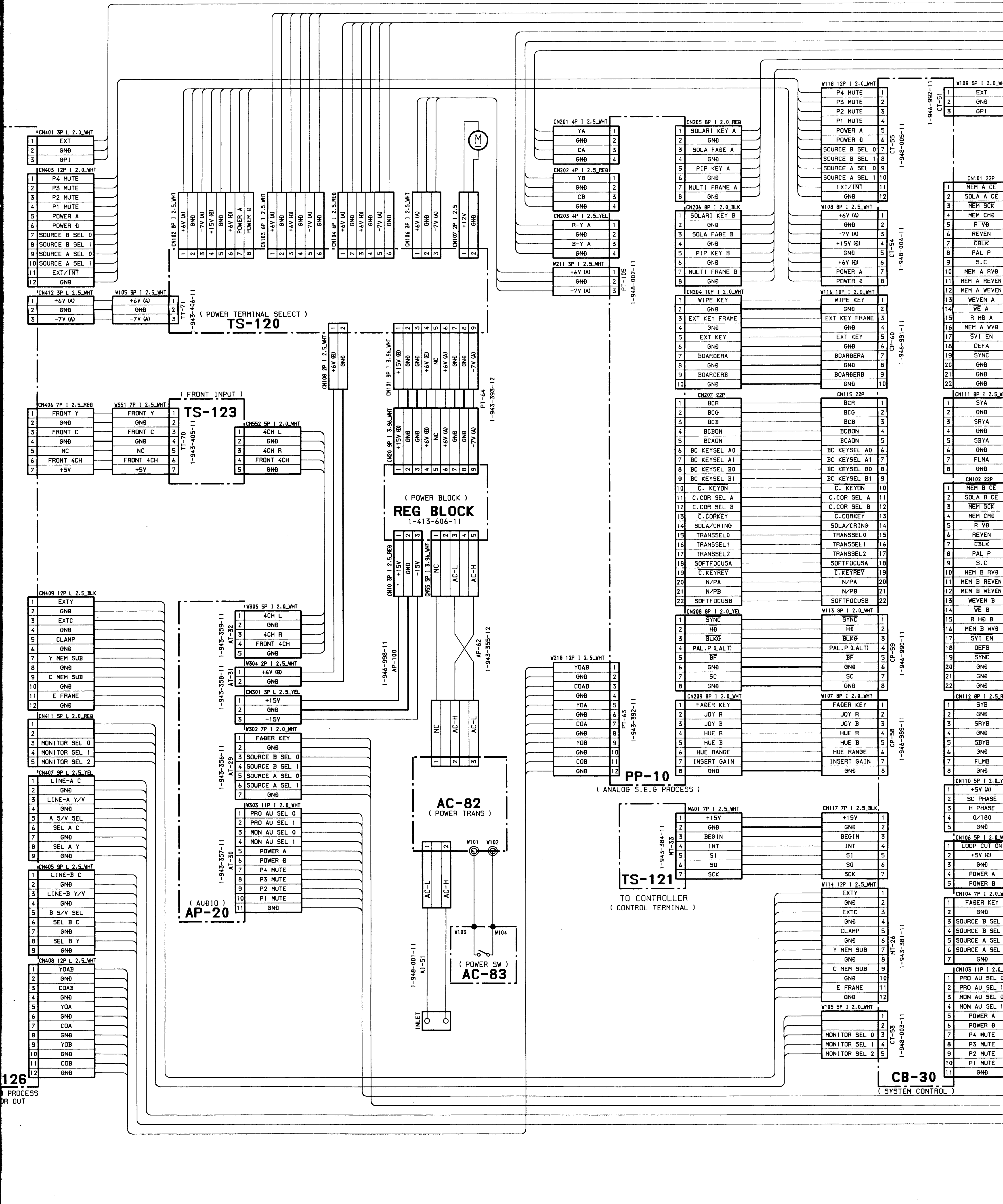
- Caution when replacing chip parts.
  New parts must be attached after removal of chip.
  Be careful not to heat the minuts side of tantalum capacitor, because it is damaged by the heat.
- All resistors are in ohms, ¼W (Chip resistors : $\frac{1}{10}$W) unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ.
- All capacitors are in μF unless otherwise noted. pF : μμF. 50V or less are not indicated except for electrolytics and tantalums.
- All variable and adjustable resistors have characteristic carve B, unless otherwise noted.
- ▭ : nonflammeble resistor.
- ▭ : fusible resistor.
- ☐ : panel designation.
- △ : internal component.
- ▭ : adjustment for repair. ✱
- ━━ : B+ line. ✱
- ━ ━ ━ : B− line. ✱
- ⇨ : IN/OUT direction of B line (+, −). ✱
- Circled numbers refer to waveforms. ✱
- Voltages are dc between ground and measurement points. ✱
- The voltage value is a referencial value between the ground values when the color bar signal is input to the SOURCE 1 and 2 from the color bar generator. ✱
- Readings are taken with a digital multimeter (DC10MΩ). ✱
- Voltages are taken with a VOM (Input impedance 10MΩ). ✱
- Voltage variations may be noted due to normal production tolerances. ✱

When indicating parts by reference number, please include the board name.

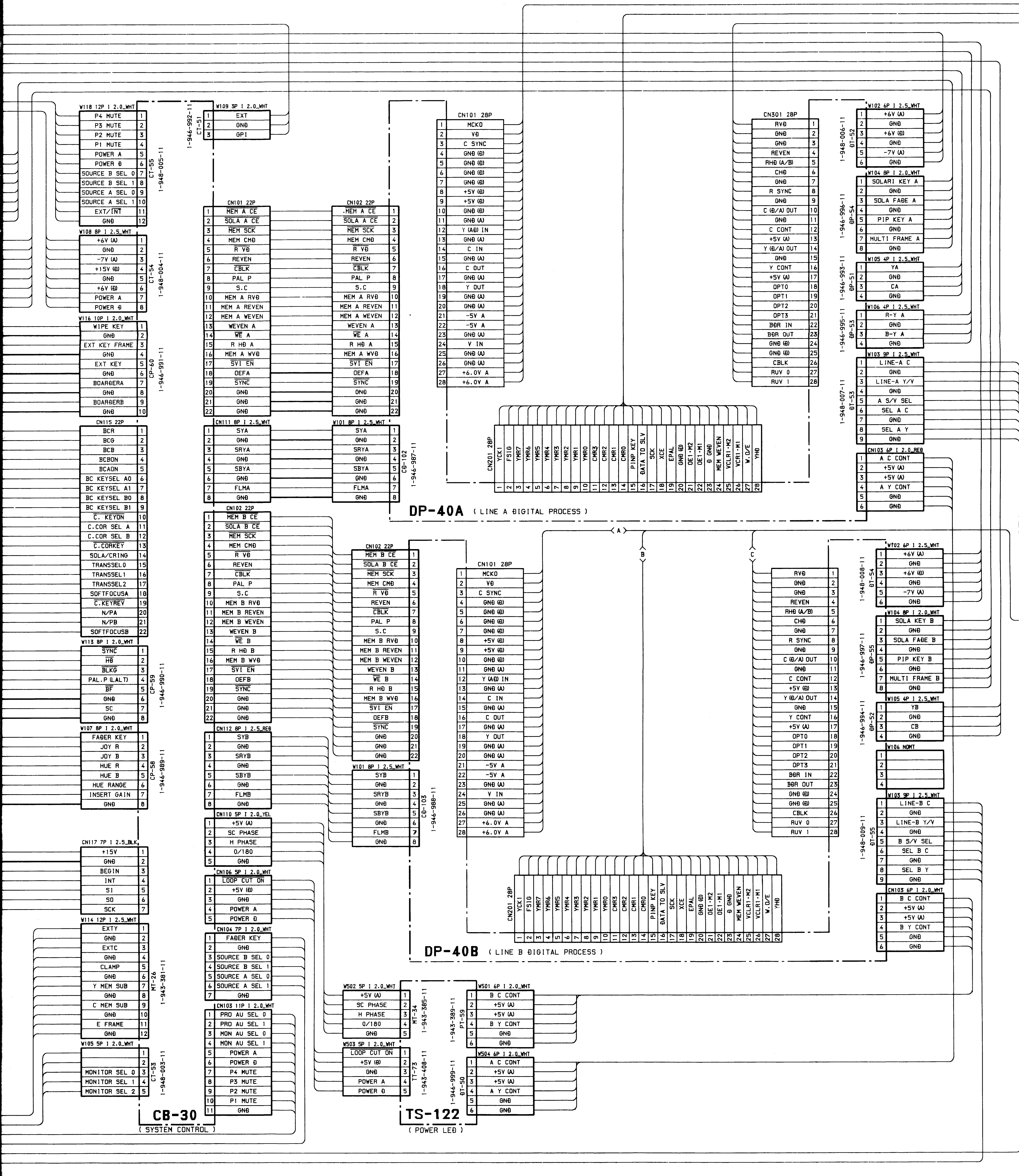
**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

✱ : indicated by the color red.

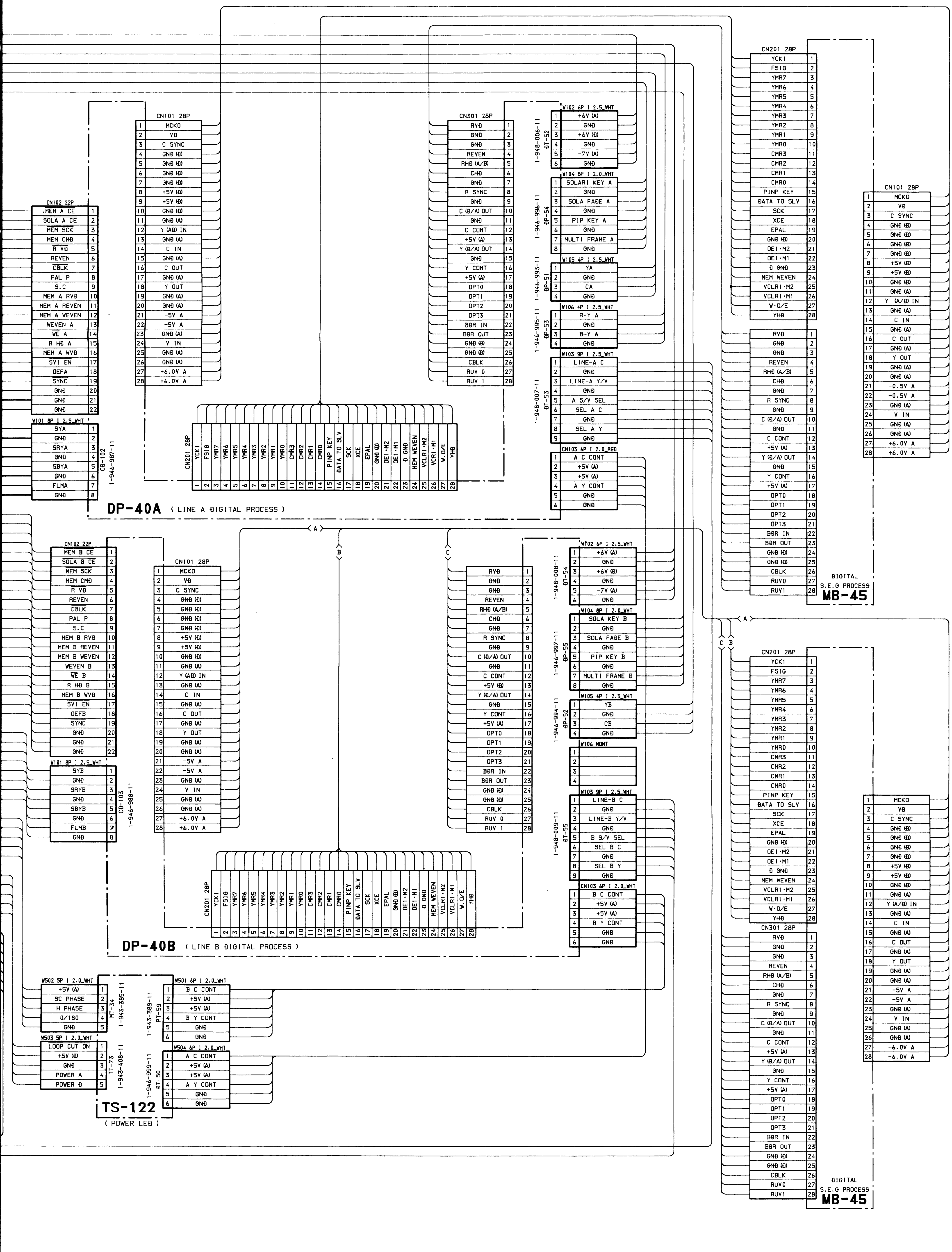



126
PROCESS
OR OUT
TS-120
( POWER TERMINAL SELECT )
TT-71
1-943-406-11
TS-123
( FRONT INPUT )
TT-70
1-943-405-11
REG BLOCK
( POWER BLOCK )
1-413-606-11
PT-64
1-943-393-12
AP-20
( AUDIO )
AT-32
1-943-359-11
AT-31
1-943-358-11
AT-29
1-943-356-11
AT-30
1-943-357-11
AP-100
1-946-998-11
AP-62
1-943-355-12
AC-82
( POWER TRANS )
AC-83
( POWER SW )
A1-51
1-948-001-11
INLET
PP-10
( ANALOG S.E.G PROCESS )
PT-105
1-948-002-11
PT-63
1-943-392-11
TS-121
TO CONTROLLER
( CONTROL TERMINAL )
MT-33
1-943-384-11
CB-30
( SYSTEM CONTROL )
CT-51
1-946-992-11
CT-55
1-948-005-11
CT-54
1-948-004-11
CP-60
1-946-991-11
CP-59
1-946-990-11
CP-58
1-946-989-11
MT-26
1-943-381-11
CT-53
1-948-003-11
M

FRAME FRAME


W118 12P I 2.0_WHT
P4 MUTE
P3 MUTE
P2 MUTE
P1 MUTE
POWER A
POWER B
SOURCE B SEL 0
SOURCE B SEL 1
SOURCE A SEL 0
SOURCE A SEL 1
EXT/INT
GND
CT-55
1-948-005-11
W109 3P I 2.0_WHT
EXT
GND
GPI
CT-51
1-946-992-11
W108 8P I 2.5_WHT
+6V (A)
GND
-7V (A)
+15V (B)
GND
+6V (B)
POWER A
POWER B
CT-54
1-948-004-11
W116 10P I 2.0_WHT
WIPE KEY
GND
EXT KEY FRAME
GND
EXT KEY
GND
BDARGERA
GND
BDARGERB
GND
CP-60
1-946-991-11
CN115 22P
BCR
BCG
BCB
BCBON
BCAON
BC KEYSEL A0
BC KEYSEL A1
BC KEYSEL B0
BC KEYSEL B1
C. KEYON
C.COR SEL A
C.COR SEL B
C.CORKEY
SOLA/CRING
TRANSSEL0
TRANSSEL1
TRANSSEL2
SOFTFOCUSA
C.KEYREV
N/PA
N/PB
SOFTFOCUSB
W113 8P I 2.0_WHT
SYNC
HD
BLKG
PAL.P (LALT)
BF
GND
SC
GND
CP-59
1-946-990-11
W107 8P I 2.0_WHT
FADER KEY
JOY R
JOY B
HUE R
HUE B
HUE RANGE
INSERT GAIN
GND
CP-58
1-946-989-11
CN117 7P I 2.5_BLK
+15V
GND
BEGIN
INT
SI
SO
SCK
W114 12P I 2.5_WHT
EXTY
GND
EXTC
GND
CLAMP
GND
Y MEM SUB
GND
C MEM SUB
GND
E FRAME
GND
MT-26
1-943-381-11
W105 5P I 2.0_WHT
MONITOR SEL 0
MONITOR SEL 1
MONITOR SEL 2
CT-53
1-948-003-11
CN101 22P
MEM A CE
SOLA A CE
MEM SCK
MEM CMD
R VD
REVEN
CBLK
PAL P
S.C
MEM A RVD
MEM A REVEN
MEM A WEVEN
WEVEN A
WE A
R HD A
MEM A WVD
SVI EN
OEFA
SYNC
GND
GND
GND
CN111 8P I 2.5_WHT
SYA
GND
SRYA
GND
SBYA
GND
FLMA
GND
CN102 22P
MEM B CE
SOLA B CE
MEM SCK
MEM CMD
R VD
REVEN
CBLK
PAL P
S.C
MEM B RVD
MEM B REVEN
MEM B WEVEN
WEVEN B
WE B
R HD B
MEM B WVD
SVI EN
OEFB
SYNC
GND
GND
GND
CN112 8P I 2.5_RED
SYB
GND
SRYB
GND
SBYB
GND
FLMB
GND
CN110 5P I 2.0_YEL
+5V (A)
SC PHASE
H PHASE
0/180
GND
CN106 5P I 2.0_WHT
LOOP CUT ON
+5V (B)
GND
POWER A
POWER B
CN104 7P I 2.0_WHT
FADER KEY
GND
SOURCE B SEL 0
SOURCE B SEL 1
SOURCE A SEL 0
SOURCE A SEL 1
GND
CN103 11P I 2.0_WHT
PRO AU SEL 0
PRO AU SEL 1
MON AU SEL 0
MON AU SEL 1
POWER A
POWER B
P4 MUTE
P3 MUTE
P2 MUTE
P1 MUTE
GND
CB-30
( SYSTEM CONTROL )
CN102 22P
MEM A CE
SOLA A CE
MEM SCK
MEM CMD
R VD
REVEN
CBLK
PAL P
S.C
MEM A RVD
MEM A REVEN
MEM A WEVEN
WEVEN A
WE A
R HD A
MEM A WVD
SVI EN
OEFA
SYNC
GND
GND
GND
W101 8P I 2.5_WHT
SYA
GND
SRYA
GND
SBYA
GND
FLMA
GND
CD-102
1-946-987-11
CN101 28P
MCKO
VD
C SYNC
GND (B)
GND (B)
GND (B)
GND (B)
+5V (B)
+5V (B)
GND (B)
GND (A)
Y (AD) IN
GND (A)
C IN
GND (A)
C OUT
GND (A)
Y OUT
GND (A)
GND (A)
-5V A
-5V A
GND (A)
V IN
GND (A)
GND (A)
+6.0V A
+6.0V A
CN201 28P
YCK1
FSIG
YMR7
YMR6
YMR5
YMR4
YMR3
YMR2
YMR1
YMR0
CMR3
CMR2
CMR1
CMR0
PINP KEY
DATA TO SLV
SCK
XCE
EPAL
GND (D)
OE1·M2
OE1·M1
D GND
MEM WEVEN
VCLR1·M2
VCLR1·M1
W.D/E
YHD
CN301 28P
RVD
GND
GND
REVEN
RHD (A/B)
CHD
GND
R SYNC
GND
C (B/A) OUT
GND
C CONT
+5V (A)
Y (B/A) OUT
GND
Y CONT
+5V (A)
OPT0
OPT1
OPT2
OPT3
BDR IN
BDR OUT
GND (B)
GND (B)
CBLK
RUV 0
RUV 1
DP-40A ( LINE A DIGITAL PROCESS )
W102 6P I 2.5_WHT
+6V (A)
GND
+6V (B)
GND
-7V (A)
GND
DT-52
1-948-006-11
W104 8P I 2.0_WHT
SOLARI KEY A
GND
SOLA FADE A
GND
PIP KEY A
GND
MULTI FRAME A
GND
DP-54
1-946-996-11
W105 4P I 2.5_WHT
YA
GND
CA
GND
DP-51
1-946-993-11
W106 4P I 2.5_WHT
R-Y A
GND
B-Y A
GND
DP-53
1-946-995-11
W103 9P I 2.5_WHT
LINE-A C
GND
LINE-A Y/V
GND
A S/V SEL
SEL A C
GND
SEL A Y
GND
DT-53
1-948-007-11
CN103 6P I 2.0_RED
A C CONT
+5V (A)
+5V (A)
A Y CONT
GND
GND
A
B
C
CN102 22P
MEM B CE
SOLA B CE
MEM SCK
MEM CMD
R VD
REVEN
CBLK
PAL P
S.C
MEM B RVD
MEM B REVEN
MEM B WEVEN
WEVEN B
WE B
R HD B
MEM B WVD
SVI EN
OEFB
SYNC
GND
GND
GND
W101 8P I 2.5_WHT
SYB
GND
SRYB
GND
SBYB
GND
FLMB
GND
CD-103
1-946-988-11
CN101 28P
MCKO
VD
C SYNC
GND (B)
GND (B)
GND (B)
GND (B)
+5V (B)
+5V (B)
GND (B)
GND (A)
Y (AD) IN
GND (A)
C IN
GND (A)
C OUT
GND (A)
Y OUT
GND (A)
GND (A)
-5V A
-5V A
GND (A)
V IN
GND (A)
GND (A)
+6.0V A
+6.0V A
CN201 28P
YCK1
FSIG
YMR7
YMR6
YMR5
YMR4
YMR3
YMR2
YMR1
YMR0
CMR3
CMR2
CMR1
CMR0
PINP KEY
DATA TO SLV
SCK
XCE
EPAL
GND (D)
OE1·M2
OE1·M1
D GND
MEM WEVEN
VCLR1·M2
VCLR1·M1
W.D/E
YHD
RVD
GND
GND
REVEN
RHD (A/B)
CHD
GND
R SYNC
GND
C (B/A) OUT
GND
C CONT
+5V (B)
Y (B/A) OUT
GND
Y CONT
+5V (A)
OPT0
OPT1
OPT2
OPT3
BDR IN
BDR OUT
GND (B)
GND (B)
CBLK
RUV 0
RUV 1
DP-40B ( LINE B DIGITAL PROCESS )
WT02 6P I 2.5_WHT
+6V (A)
GND
+6V (B)
GND
-7V (A)
GND
DT-54
1-948-008-11
W104 8P I 2.0_WHT
SOLA KEY B
GND
SOLA FADE B
GND
PIP KEY B
GND
MULTI FRAME B
GND
DP-55
1-946-997-11
W105 4P I 2.5_WHT
YB
GND
CB
GND
DP-52
1-946-994-11
W106 NOMT
W103 9P I 2.5_WHT
LINE-B C
GND
LINE-B Y/V
GND
B S/V SEL
SEL B C
GND
SEL B Y
GND
DT-55
1-948-009-11
CN103 6P I 2.0_WHT
B C CONT
+5V (A)
+5V (A)
B Y CONT
GND
GND
W502 5P I 2.0_WHT
+5V (A)
SC PHASE
H PHASE
0/180
GND
MT-34
1-943-385-11
W503 5P I 2.0_WHT
LOOP CUT ON
+5V (B)
GND
POWER A
POWER B
TT-73
1-943-408-11
W501 6P I 2.0_WHT
B C CONT
+5V (A)
+5V (A)
B Y CONT
GND
GND
PT-59
1-943-389-11
W504 6P I 2.0_WHT
A C CONT
+5V (A)
+5V (A)
A Y CONT
GND
GND
DT-50
1-946-999-11
TS-122
( POWER LED )

FRAME FRAME


DP-40A ( LINE A DIGITAL PROCESS )
CN102 22P
MEM A CE
SOLA A CE
MEM SCK
MEM CMD
R VD
REVEN
CBLK
PAL P
S.C
MEM A RVD
MEM A REVEN
MEM A WEVEN
WEVEN A
WE A
R HD A
MEM A WVD
SVI EN
OEFA
SYNC
GND
W101 8P I 2.5 WHT
SYA
SRYA
SBYA
FLMA
CD-102
1-946-987-11
CN101 28P
MCKO
VD
C SYNC
GND (D)
+5V (D)
GND (A)
Y (A/D) IN
C IN
C OUT
Y OUT
-5V A
V IN
+6.0V A
CN301 28P
RVD
RHD (A/B)
CHD
R SYNC
C (B/A) OUT
C CONT
+5V (A)
Y (B/A) OUT
Y CONT
OPT0
OPT1
OPT2
OPT3
BDR IN
BDR OUT
RUV 0
RUV 1
W102 6P I 2.5 WHT
+6V (A)
+6V (D)
-7V (A)
1-948-006-11
DT-52
W104 8P I 2.0 WHT
SOLARI KEY A
SOLA FADE A
PIP KEY A
MULTI FRAME A
1-946-996-11
DP-54
W105 4P I 2.5 WHT
YA
CA
1-946-993-11
DP-51
W106 4P I 2.5 WHT
R-Y A
B-Y A
1-946-995-11
DP-53
W103 9P I 2.5 WHT
LINE-A C
LINE-A Y/V
A S/V SEL
SEL A C
SEL A Y
1-948-007-11
DT-53
CN103 6P I 2.0 RED
A C CONT
A Y CONT
CN201 28P
YCK1
FSIG
YMR7
YMR6
YMR5
YMR4
YMR3
YMR2
YMR1
YMR0
CMR3
CMR2
CMR1
CMR0
PINP KEY
DATA TO SLV
SCK
XCE
EPAL
OE1·M2
OE1·M1
D GND
MEM WEVEN
VCLR1·M2
VCLR1·M1
W·O/E
YHD
A
B
C
DP-40B ( LINE B DIGITAL PROCESS )
MEM B CE
SOLA B CE
MEM B RVD
MEM B REVEN
MEM B WEVEN
WEVEN B
WE B
R HD B
MEM B WVD
OEFB
SYB
SRYB
SBYB
FLMB
CD-103
1-946-988-11
+5V (D)
1-948-008-11
DT-54
SOLA KEY B
SOLA FADE B
PIP KEY B
MULTI FRAME B
1-946-997-11
DP-55
W105 4P I 2.5 WHT
YB
CB
1-946-994-11
DP-52
W106 NOMT
LINE-B C
LINE-B Y/V
B S/V SEL
SEL B C
SEL B Y
1-948-009-11
DT-55
CN103 6P I 2.0 WHT
B C CONT
B Y CONT
TS-122
( POWER LED )
W502 5P I 2.0 WHT
SC PHASE
H PHASE
0/180
MT-34
1-943-385-11
W503 5P I 2.0 WHT
LOOP CUT ON
+5V (B)
POWER A
POWER D
TT-73
1-943-408-11
W501 6P I 2.0 WHT
PT-59
1-943-389-11
W504 6P I 2.0 WHT
DT-50
1-946-999-11
DIGITAL
S.E.G PROCESS
MB-45
-0.5V A
-6.0V A

FRAME FRAME

## 5-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS —MAIN UNIT—

< DIODE >

| | | | |
|---|---|---|---|
| D001 | 8-719-800-76 | DIODE | 1SS226 |
| D002 | 8-719-800-76 | DIODE | 1SS226 |
| D003 | 8-719-800-76 | DIODE | 1SS226 |
| D004 | 8-719-800-76 | DIODE | 1SS226 |
| D101 | 8-719-800-76 | DIODE | 1SS226 |
| D102 | 8-719-800-76 | DIODE | 1SS226 |
| D103 | 8-719-800-76 | DIODE | 1SS226 |
| D104 | 8-719-800-76 | DIODE | 1SS226 |
| D105 | 8-719-105-58 | DIODE | RD3. 9M-B2 |
| D106 | 8-713-300-88 | DIODE | 1T33C-01 |
| D107 | 8-713-300-88 | DIODE | 1T33C-01 |
| D108 | 8-713-300-88 | DIODE | 1T33C-01 |

< IC >

| | | | |
|---|---|---|---|
| IC001 | 8-752-816-69 | IC | CXP50116-224Q |
| IC002 | 8-759-938-68 | IC | CXD1095Q |
| IC004 | 8-759-979-37 | IC | MSM72H017FS |
| IC006 | 8-759-232-90 | IC | TC74HC241AF |
| IC007 | 8-759-100-96 | IC | uPC4558G2 |
| IC008 | 8-759-231-93 | IC | TC74HC4051AF |
| IC009 | 8-759-908-17 | IC | TL082CPS |
| IC010 | 8-759-908-17 | IC | TL082CPS |
| IC011 | 8-759-908-17 | IC | TL082CPS |
| IC012 | 8-759-908-17 | IC | TL082CPS |
| IC013 | 8-759-925-85 | IC | SN74HC32NS |
| IC014 | 8-759-230-XX | IC | TC74HC4053AF |
| IC015 | 8-759-230-XX | IC | TC74HC4053AF |
| IC016 | 8-759-230-XX | IC | TC74HC4053AF |
| IC019 | 8-759-242-74 | IC | TC7W04F |
| IC020 | 8-759-242-76 | IC | TC7W08F |
| IC021 | 8-759-242-74 | IC | TC7W04F |
| IC022 | 8-759-242-74 | IC | TC7W04F |
| IC023 | 8-759-242-76 | IC | TC7W08F |
| IC027 | 8-759-232-32 | IC | TC74HC74AF |
| IC028 | 8-759-239-23 | IC | TC74HC86AF |
| IC029 | 8-759-032-01 | IC | MC74HC00AF |
| IC030 | 8-759-232-32 | IC | TC74HC74AF |
| IC031 | 8-759-232-32 | IC | TC74HC74AF |
| IC032 | 8-759-232-32 | IC | TC74HC74AF |
| IC033 | 8-759-232-32 | IC | TC74HC74AF |
| IC034 | 8-759-232-32 | IC | TC74HC74AF |
| IC101 | 8-759-105-49 | IC | uPC319G2 |
| IC102 | 8-759-907-81 | IC | SN74LS221NS |
| IC103 | 8-759-105-49 | IC | uPC319G2 |
| IC104 | 8-759-242-72 | IC | TC7W00F |
| IC107 | 8-752-335-47 | IC | CXD1216M |
| IC108 | 8-759-230-XX | IC | TC74HC4053AF |
| IC109 | 8-752-332-67 | IC | CXD1217M |
| IC112 | 8-759-907-81 | IC | SN74LS221NS |
| IC113 | 8-759-908-17 | IC | TL082CPS |
| IC114 | 8-759-902-88 | IC | SN74LS123NS |
| IC115 | 8-759-907-81 | IC | SN74LS221NS |
| IC116 | 8-759-232-90 | IC | TC74HC241AF |
| IC117 | 8-759-230-XX | IC | TC74HC4053AF |
| IC118 | 8-759-230-XX | IC | TC74HC4053AF |
| IC119 | 8-759-925-72 | IC | SN74HC02NS |
| IC120 | 8-759-239-23 | IC | TC74HC86AF-TP1 |
| IC121 | 8-759-907-81 | IC | SN74LS221NS |
| IC123 | 8-759-242-70 | IC | TC7WU04F |
| IC124 | 8-759-232-32 | IC | TC74HC74AF |
| IC125 | 8-759-603-56 | IC | M51272FP |
| IC126 | 8-759-230-XX | IC | TC74HC4053AF |
| IC127 | 8-759-907-81 | IC | SN74LS221NS |
| IC128 | 8-759-710-09 | IC | NJM2233AM |
| IC129 | 8-759-242-72 | IC | TC7W00F |
| IC901 | 8-759-926-28 | IC | SN74HC174NS |
| IC902 | 8-759-925-74 | IC | SN74HC04NS |
| IC903 | 8-759-925-85 | IC | SN74HC32NS |
| IC904 | 8-759-232-52 | IC | TC74HC133AF |
| IC905 | 8-759-926-28 | IC | SN74HC174NS |
| IC906 | 8-759-926-28 | IC | SN74HC174NS |
| IC907 | 8-759-232-52 | IC | TC74HC133AF |
| IC908 | 8-759-926-28 | IC | SN74HC174NS |
| IC909 | 8-759-240-80 | IC | TC74HC153AF |
| IC911 | 8-759-926-28 | IC | SN74HC174NS |

< TRANSISTOR >

| | | | |
|---|---|---|---|
| Q001 | 8-729-119-48 | TRANSISTOR | 2SA1464-Y13 |
| Q002 | 8-729-119-48 | TRANSISTOR | 2SA1464-Y13 |
| Q003 | 8-729-140-47 | TRANSISTOR | 2SC3735-L-B35 |
| Q004 | 8-729-140-47 | TRANSISTOR | 2SC3735-L-B35 |
| Q005 | 8-729-216-22 | TRANSISTOR | 2SA1162 |
| Q006 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q007 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q008 | 8-729-216-22 | TRANSISTOR | 2SA1162 |
| Q009 | 8-729-216-22 | TRANSISTOR | 2SA1162 |
| Q010 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q011 | 8-729-140-47 | TRANSISTOR | 2SC3735-L-B35 |
| Q012 | 8-729-140-47 | TRANSISTOR | 2SC3735-L-B35 |
| Q013 | 8-729-140-47 | TRANSISTOR | 2SC3735-L-B35 |
| Q101 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q102 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q103 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q104 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q105 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q106 | 8-729-216-22 | TRANSISTOR | 2SA1162 |
| Q107 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q108 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q109 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q110 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q111 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q112 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q113 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q114 | 8-729-216-22 | TRANSISTOR | 2SA1162 |
| Q115 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q116 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q118 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q119 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q121 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q122 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q123 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q124 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q125 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q126 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q127 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q128 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q129 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q130 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q131 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q132 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q133 | 8-729-100-66 | TRANSISTOR | 2SC1623 |

CB-30 BOARD

| | | | |
|---|---|---|---|
| D001 | J-6 | IC123 | B-8 |
| D002 | I-5 | IC124 | B-8 |
| D003 | I-5 | IC125 | C-4 |
| D004 | I-5 | IC126 | C-2 |
| D101 | B-15 | IC127 | A-3 |
| D102 | E-16 | IC128 | D-3 |
| D103 | D-16 | IC129 | D-14 |
| D104 | C-14 | IC901 | F-10 |
| D105 | C-16 | IC902 | G-11 |
| D106 | C-12 | IC903 | G-12 |
| D107 | B-11 | IC904 | G-10 |
| D108 | D-8 | IC905 | J-10 |
| | | IC906 | I-12 |
| IC001 | H-14 | IC907 | I-11 |
| IC002 | J-9 | IC908 | G-9 |
| IC003 | G-4 | IC909 | H-9 |
| IC004 | J-3 | IC910 | F-11 |
| IC005 | J-15 | IC911 | G-9 |
| IC006 | F-14 | | |
| IC007 | H-15 | Q001 | J-6 |
| IC008 | H-15 | Q002 | J-6 |
| IC009 | G-15 | Q003 | J-6 |
| IC010 | G-16 | Q004 | J-6 |
| IC011 | F-15 | Q005 | J-5 |
| IC012 | F-16 | Q006 | K-5 |
| IC013 | I-6 | Q007 | K-5 |
| IC014 | H-5 | Q008 | K-5 |
| IC015 | H-7 | Q009 | K-5 |
| IC016 | J-7 | Q010 | K-4 |
| IC017 | H-1 | Q011 | J-17 |
| IC018 | D-1 | Q012 | J-17 |
| IC019 | I-16 | Q013 | K-17 |
| IC020 | G-13 | Q101 | D-16 |
| IC021 | J-14 | Q102 | B-16 |
| IC022 | I-7 | Q103 | C-17 |
| IC023 | J-5 | Q104 | B-17 |
| IC024 | I-14 | Q105 | A-16 |
| IC025 | G-1 | Q106 | A-15 |
| IC026 | G-1 | Q107 | B-15 |
| IC027 | J-13 | Q108 | E-16 |
| IC028 | F-6 | Q109 | E-16 |
| IC029 | G-6 | Q110 | D-16 |
| IC030 | F-5 | Q111 | D-16 |
| IC031 | F-13 | Q112 | C-15 |
| IC032 | F-13 | Q113 | B-15 |
| IC033 | G-7 | Q114 | B-14 |
| IC034 | E-14 | Q115 | A-15 |
| IC101 | C-15 | Q116 | A-14 |
| IC102 | D-16 | Q118 | C-13 |
| IC103 | B-16 | Q119 | B-12 |
| IC104 | B-16 | Q121 | B-7 |
| IC107 | D-12 | Q122 | B-5 |
| IC108 | D-11 | Q123 | B-4 |
| IC109 | B-13 | Q124 | A-7 |
| IC112 | B-2 | Q125 | B-5 |
| IC113 | B-10 | Q126 | A-4 |
| IC114 | C-11 | Q127 | B-7 |
| IC115 | D-9 | Q128 | B-5 |
| IC116 | C-13 | Q129 | B-5 |
| IC117 | C-7 | Q130 | C-8 |
| IC118 | C-7 | Q131 | C-2 |
| IC119 | D-6 | Q132 | E-2 |
| IC120 | C-9 | Q133 | D-2 |
| IC121 | C-6 | | |

For printed wiring boards :

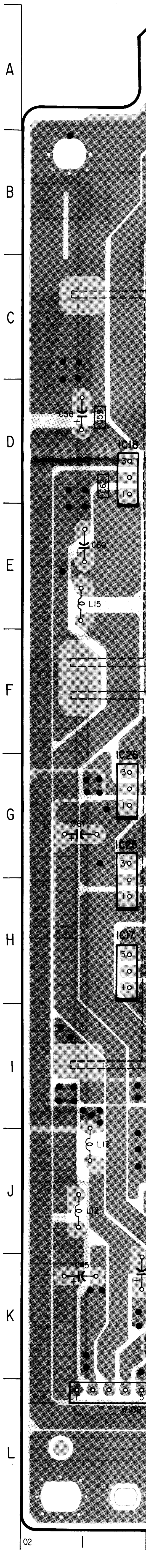
- ○— : indicates a lead wire mounted on the componet side.
- ●— : indicates a lead wire mounted on the printed side.
- ● : Through hole.
- ▓ : Pattern from the side which enables seeing.
- ░ : Pattern of the rear side.

When indicating parts by reference number, please include the board name.

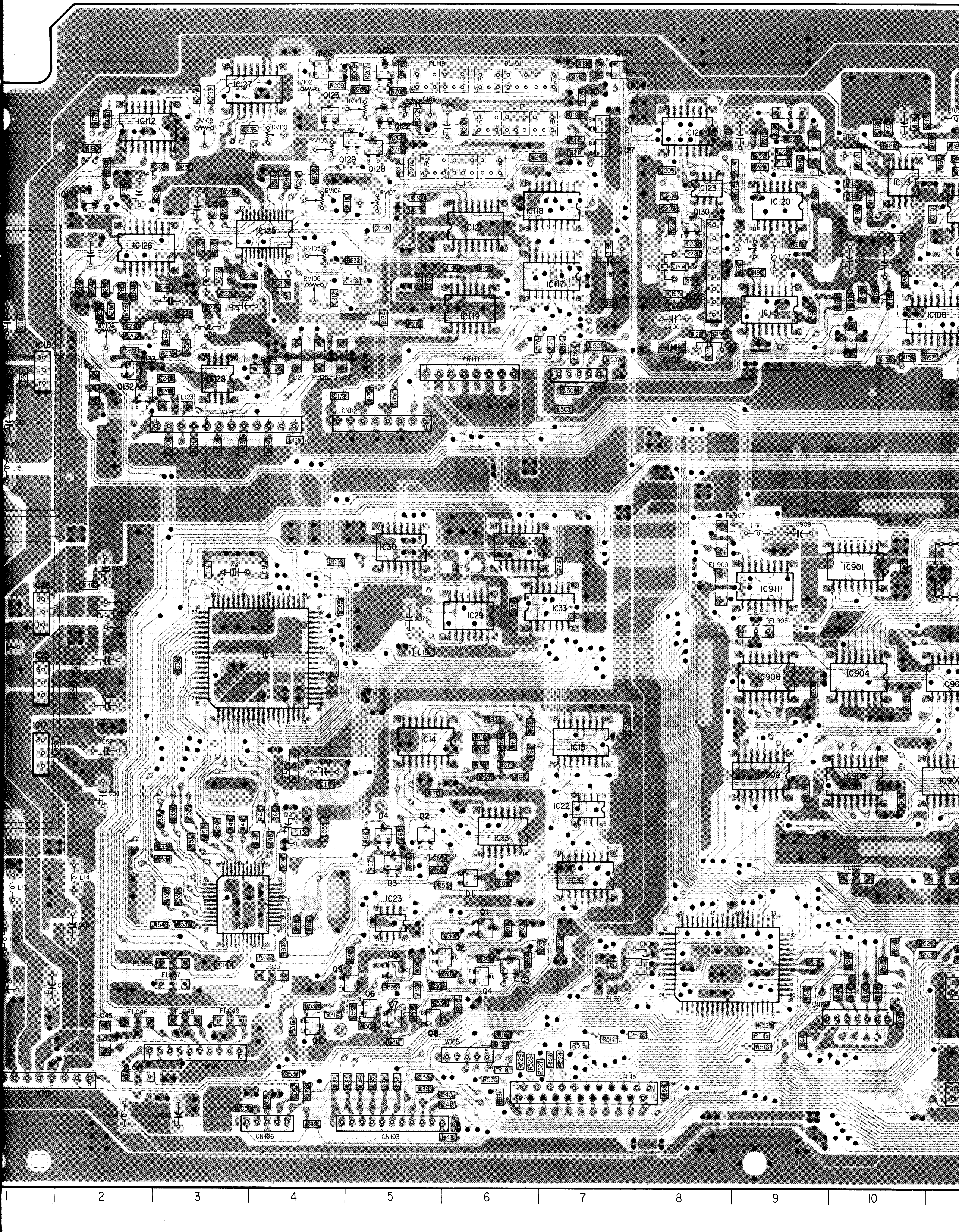
## CB-30 (SYSTEM CO

—Ref. No. CB-30 BOAR

CB-30 BOARD



BOARD


IC127
IC112
IC126
IC125
IC128
IC121
IC118
IC117
IC119
IC124
IC123
IC120
IC115
IC113
IC108
IC18
IC26
IC25
IC17
IC30
IC28
IC29
IC33
IC3
IC14
IC15
IC13
IC22
IC16
IC23
IC4
IC2
IC911
IC901
IC908
IC904
IC909
IC905
Q126
Q125
Q124
Q123
Q122
Q121
Q127
Q129
Q128
Q130
Q131
Q132
Q133
FL118
DL101
FL117
FL119
CN111
CN112
CN110
W114
CN106
CN103
CN115
W116
W106
W105
X3
X103
D108
D1
D2
D3
D4
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
Q9
Q10
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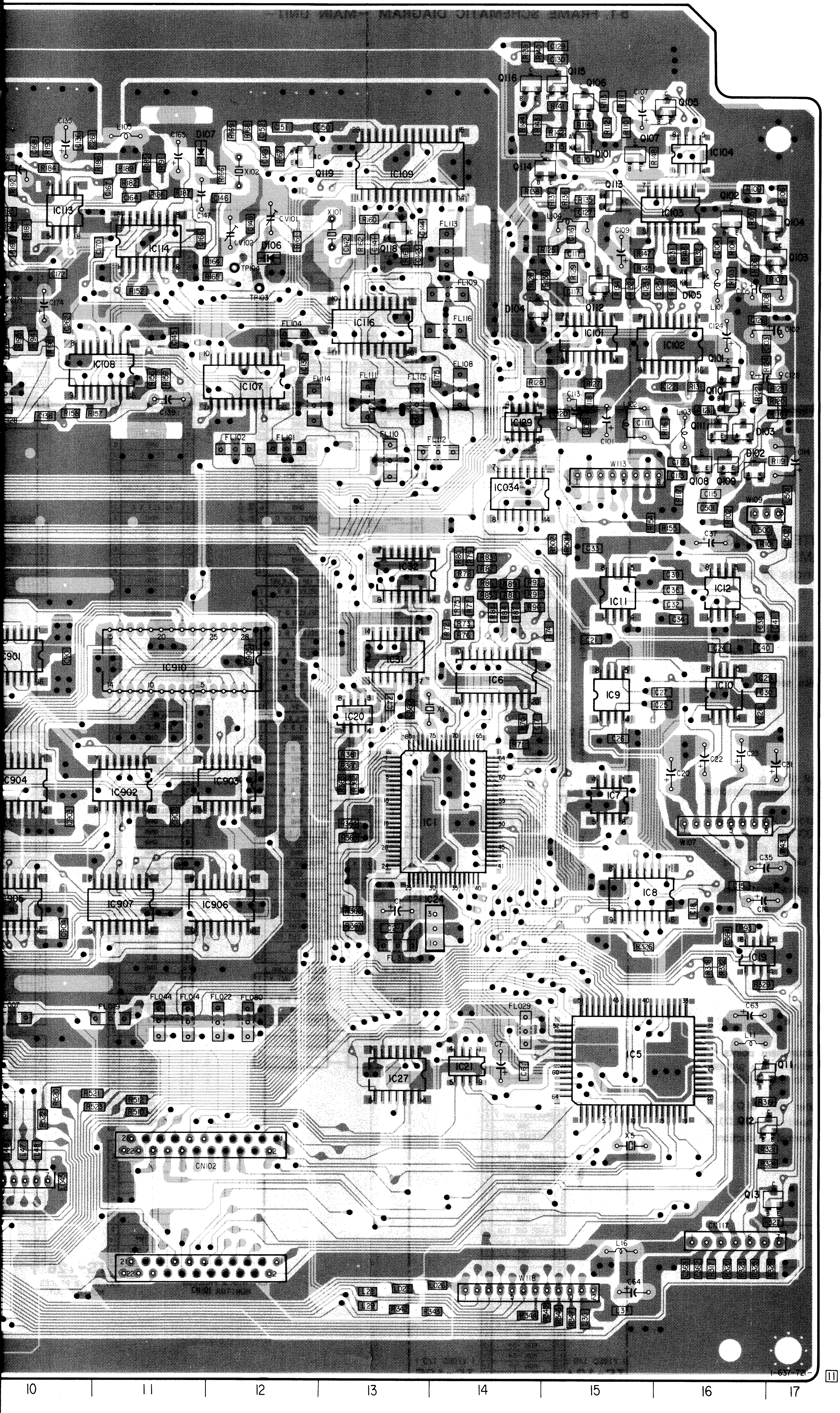

IC113
IC114
IC109
IC104
IC103
IC116
IC101
IC102
IC108
IC107
IC129
IC034
IC32
IC11
IC12
IC31
IC6
IC9
IC10
IC20
IC1
IC7
IC8
IC24
IC19
IC5
IC27
IC21
IC901
IC910
IC904
IC902
IC903
IC907
IC906
Q116
Q115
Q106
Q105
Q107
Q114
Q113
Q119
Q118
Q112
Q102
Q104
Q103
Q101
Q110
Q111
Q108
Q109
Q11
Q12
Q13
D107
D101
D106
D105
D104
D103
D102
X102
X101
X1
X5
CV101
CV102
TP104
TP103
FL113
FL109
FL116
FL104
FL108
FL114
FL111
FL115
FL102
FL101
FL110
FL112
FL044
FL014
FL022
FL050
FL019
FL029
W113
W109
W107
W117
W118
CN102
CN101
L106
L104
L101
L103
L102
L16
L11
1-637-721-
11
10
11
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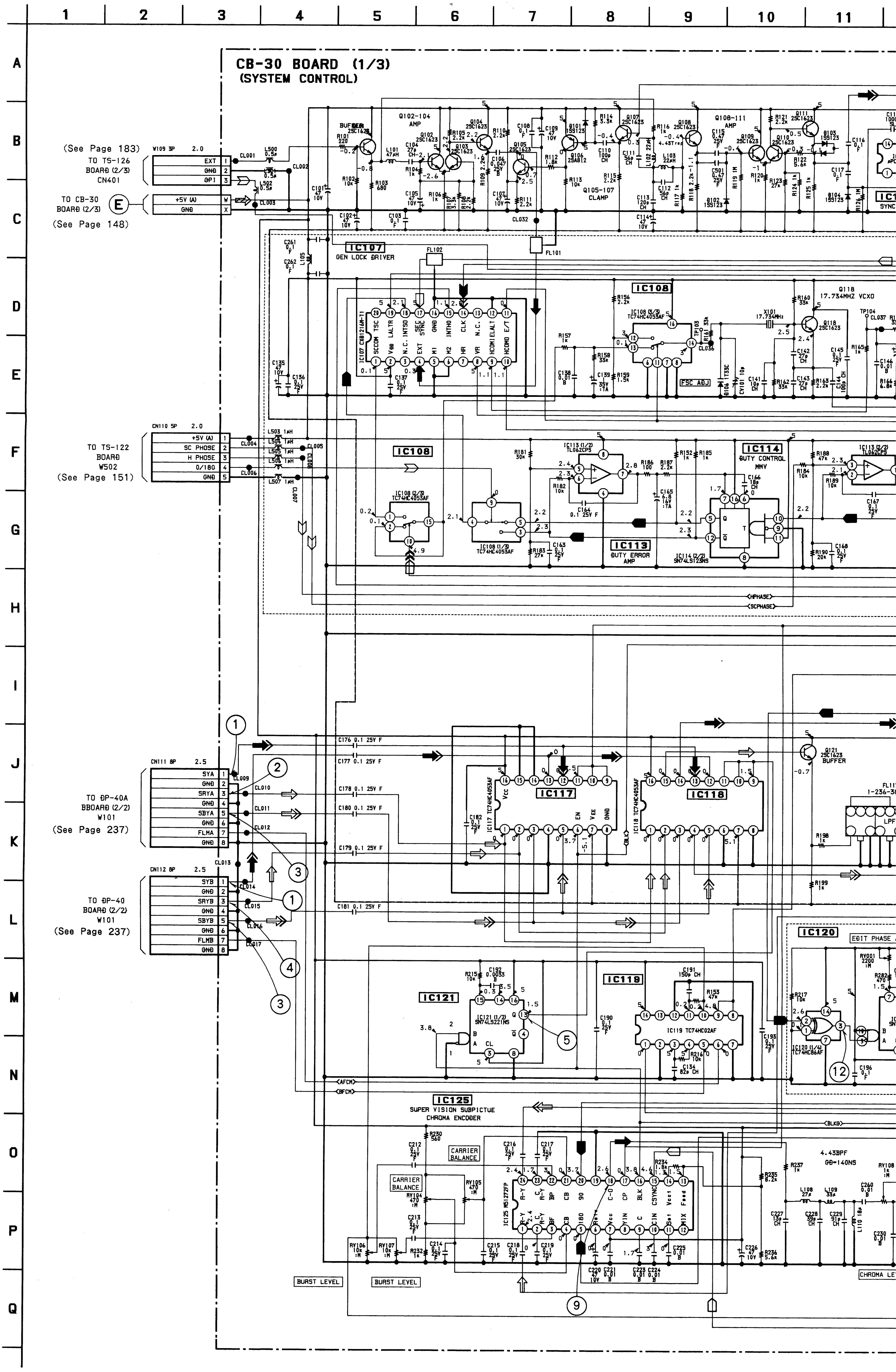
17

# CB-30 (1/3) (SYSTEM CONTROL) SCHEMATIC DIAGRAM

—Ref. No. CB-30 BOARD : 6,000 Series—



1
2
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11
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
CB-30 BOARD (1/3)
(SYSTEM CONTROL)
(See Page 183)
TO TS-126 BOARD (2/3) CN401
TO CB-30 BOARD (2/3)
(See Page 148)
EXT
GND
GPI
+5V (A)
GND
TO TS-122 BOARD W502
(See Page 151)
+5V (A)
SC PHOSE
H PHOSE
0/180
GND
TO DP-40A BBOARD (2/2) W101
(See Page 237)
SYA
GND
SRYA
GND
SBYA
GND
FLMA
GND
TO DP-40 BOARD (2/2) W101
(See Page 237)
SYB
GND
SRYB
GND
SBYB
GND
FLMB
GND
IC107
GEN LOCK DRIVER
IC108
FSC ADJ
IC113
DUTY ERROR AMP
IC114
DUTY CONTROL MMV
IC117
IC118
IC119
IC120
IC121
IC125
SUPER VISION SUBPICTUE CHROMA ENCODER
CARRIER BALANCE
BURST LEVEL
CHROMA LEVEL
Q102-104 AMP
Q105-107 CLAMP
Q108-111 AMP
Q118 17.734MHZ VCXO
Q121 2SC1623 BUFFER
LPF
4.43BPF GD=140NS
<HPHASE>
<SCPHASE>
<AFCM>
<BFCM>
<BLKG>

• Signal path

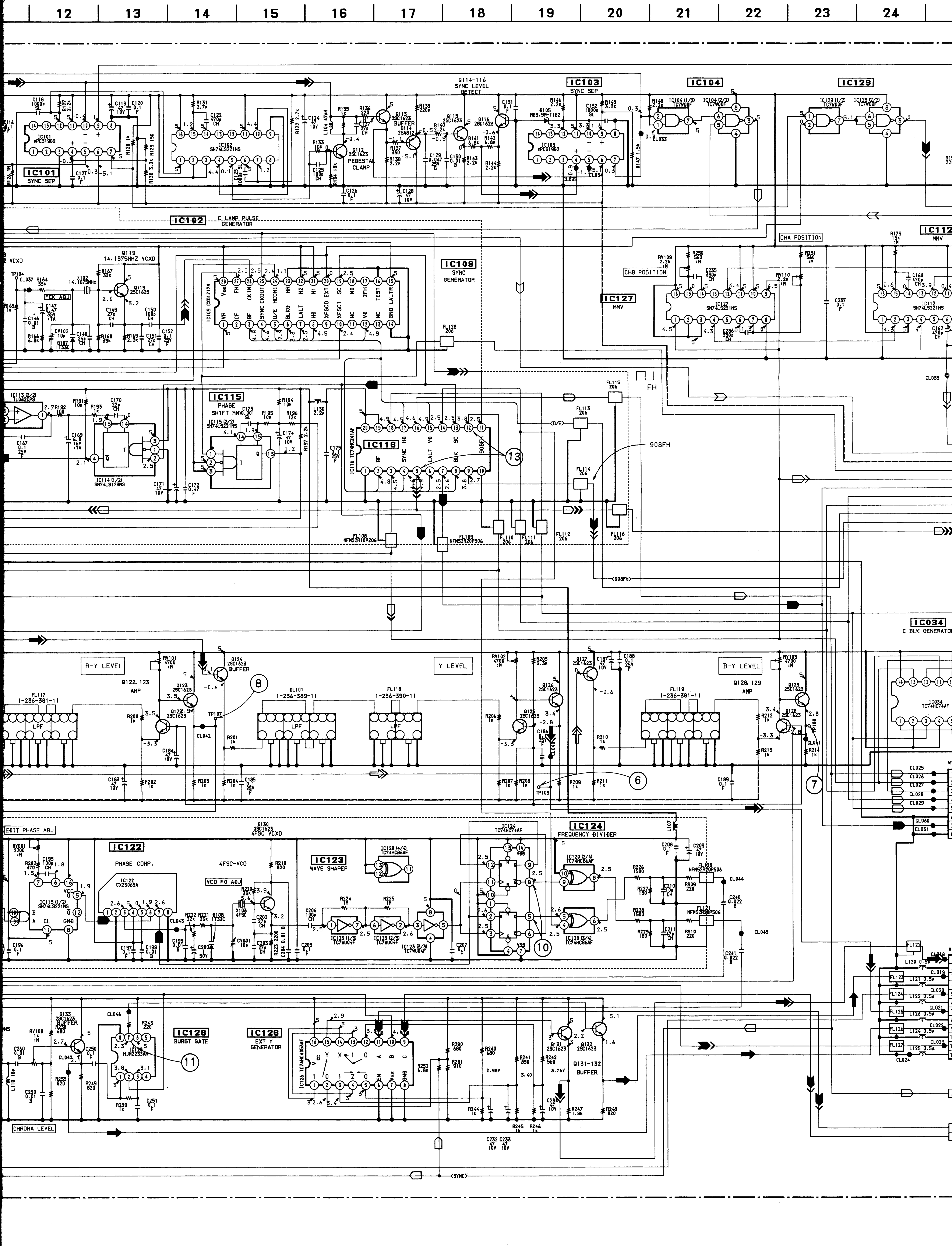
SOURCE Signal

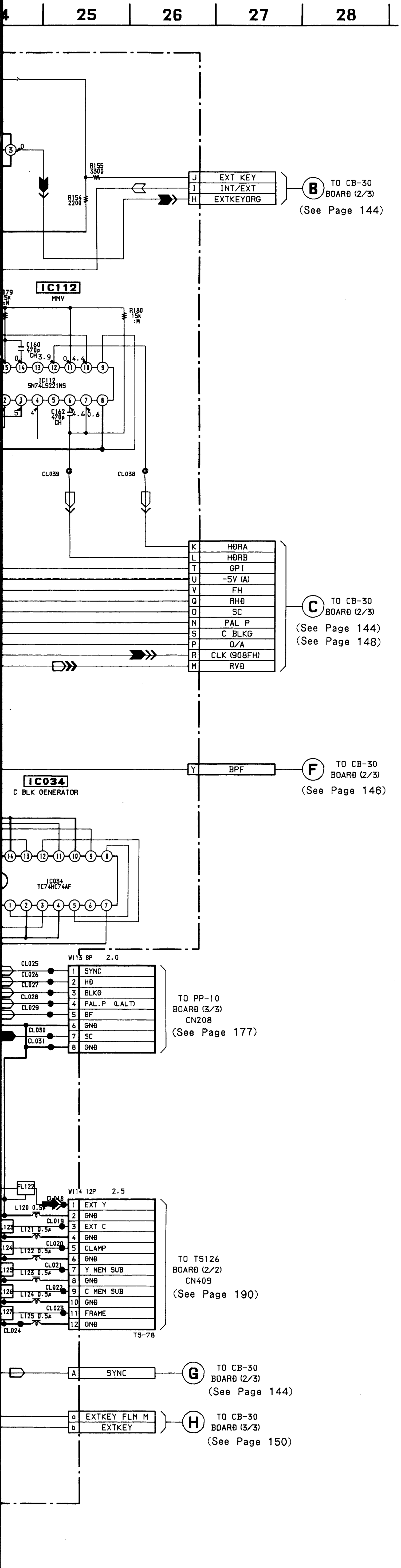
- Y ➡
- CHROMA ➡
- Y/CHROMA ➡
- R-Y ⇨
- B-Y ⇨
- SYNC ▷
- HD ▷
- VD ▷

CONTROL Signal

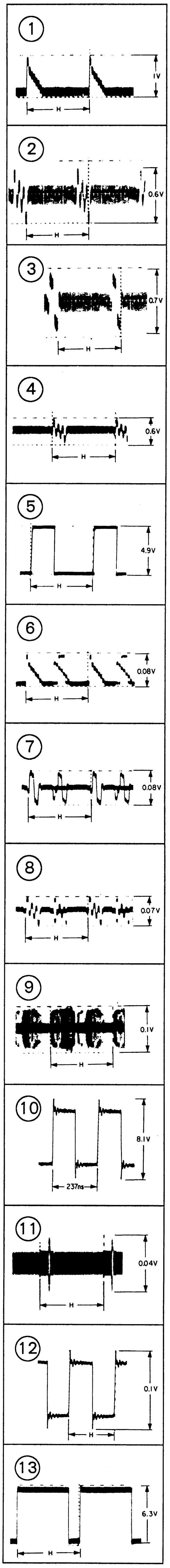
- CONTROL ▷
- A/D REF ▶
- KEY PULSE ▶
- SC ▶
- CLK ▶
- BEGIN ▷
- INT ▶
- SIRIAL IN ▶
- SIRIAL OUT ▶
- AUDIO Signal ⇨

en indicating parts by refer-
ce number, please include
board name.

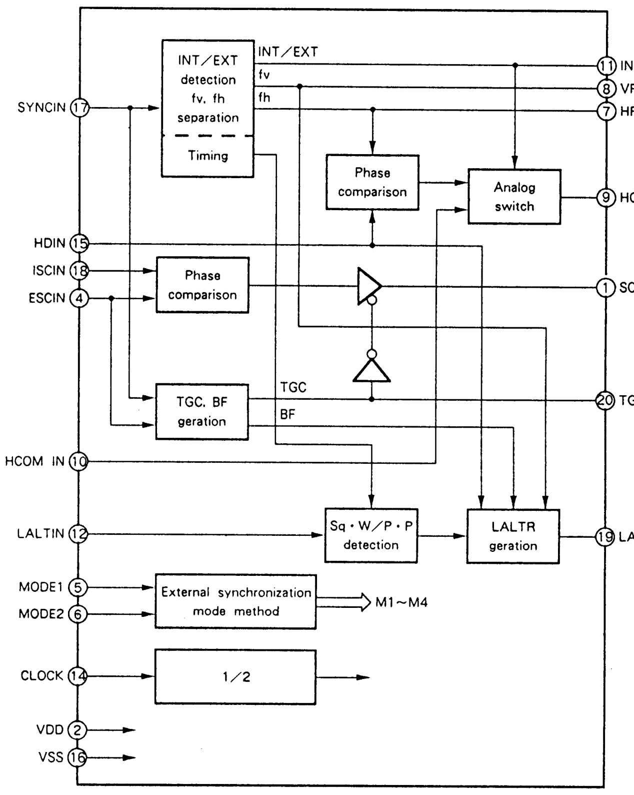

12
13
14
15
16
17
18
19
20
21
22
23
24
IC101 SYNC SEP
IC101 μPC31902
IC102 SN74LS221NS
IC102 C LAMP PULSE GENERATOR
Q112 2SC1623 PEDESTAL CLAMP
Q113 2SC1623 BUFFER
Q114 2SA812
Q114-116 SYNC LEVEL DETECT
Q115 2SC1623
Q116 2SC1623
IC103 SYNC SEP
IC103 μPC31902
IC104
IC104 (1/2) TC7W00F
IC104 (2/2) TC7W00F
IC129
IC129 (1/2) TC7W00F
IC129 (2/2) TC7W00F
Q119 14.1875MHZ VCXO
FCK ADJ
IC109 SYNC GENERATOR
IC109 CXD1217M
IC127 MMV
IC127 SN74LS221NS
CHA POSITION
CHB POSITION
IC112 MMV
IC112 SN74LS221NS
IC113 (2/2) TL062CPS
IC114 (1/2) SN74LS123NS
IC115 PHASE SHIFT MMV
IC115 (2/2) SN74LS221NS
IC116 TC74HC241AF
FH
908FH
<908FH>
<O/E>
FL108 NFM52R10P206
FL109 NFM52R20P506
R-Y LEVEL
Q122, 123 AMP
Q124 2SC1623 BUFFER
FL117 1-236-381-11
BL101 1-236-389-11
FL118 1-236-390-11
LPF
Y LEVEL
Q127 2SC1623
B-Y LEVEL
Q128, 129 AMP
FL119 1-236-381-11
IC034 C BLK GENERATOR
IC034 TC74HC74AF
TP107
TP108
TP109
EDIT PHASE ADJ
IC122 PHASE COMP.
IC122 CX23065A
IC115 (1/2) SN74LS221NS
Q130 2SC1623 4FSC VCXO
4FSC-VCO
VCO FO ADJ
IC123 WAVE SHAPEP
IC120 (4/4) TC74HC86AF
IC123 (1/3) TC7W04F
IC123 (2/3) TC7W04F
IC123 (3/3) TC7W04F
IC124 TC74HC74AF
IC124 FREQUENCY DIVIDER
IC120 (2/4) TC74HC86AF
IC120 (3/4) TC74HC86AF
Q133 2SC1623 BUFFER
IC128 BURST GATE
IC128 NJM2233AM
IC126 EXT Y GENERATOR
IC126 TC74HC4053AF
Q131-132 BUFFER
CHROMA LEVEL
<SYNC>
⑥
⑦
⑧
⑩
⑪
⑬


25
26
27
28
R155 3300
R154 2200
J EXT KEY
I INT/EXT
H EXTKEYORG
B TO CB-30 BOARD (2/3) (See Page 144)
IC112 MMV
R180 15k :M
C160 470p CH
IC112 SN74LS221NS
C162 470p CH
CL039
CL038
K HDRA
L HDRB
T GPI
U -5V (A)
V FH
Q RHD
O SC
N PAL P
S C BLKG
P O/A
R CLK (908FH)
M RVD
C TO CB-30 BOARD (2/3) (See Page 144) (See Page 148)
Y BPF
F TO CB-30 BOARD (2/3) (See Page 146)
IC034 C BLK GENERATOR
IC034 TC74HC74AF
W113 8P 2.0
CL025
CL026
CL027
CL028
CL029
CL030
CL031
1 SYNC
2 HD
3 BLKG
4 PAL.P (ALT)
5 BF
6 GND
7 SC
8 GND
TO PP-10 BOARD (3/3) CN208 (See Page 177)
FL122
W114 12P 2.5
L120 0.5
L121 0.5
L122 0.5
L123 0.5
L124 0.5
L125 0.5
CL018
CL019
CL020
CL021
CL022
CL023
CL024
1 EXT Y
2 GND
3 EXT C
4 GND
5 CLAMP
6 GND
7 Y MEM SUB
8 GND
9 C MEM SUB
10 GND
11 FRAME
12 GND
TS-78
TO TS126 BOARD (2/2) CN409 (See Page 190)
A SYNC
G TO CB-30 BOARD (2/3) (See Page 144)
a EXTKEY FLM M
b EXTKEY
H TO CB-30 BOARD (3/3) (See Page 150)

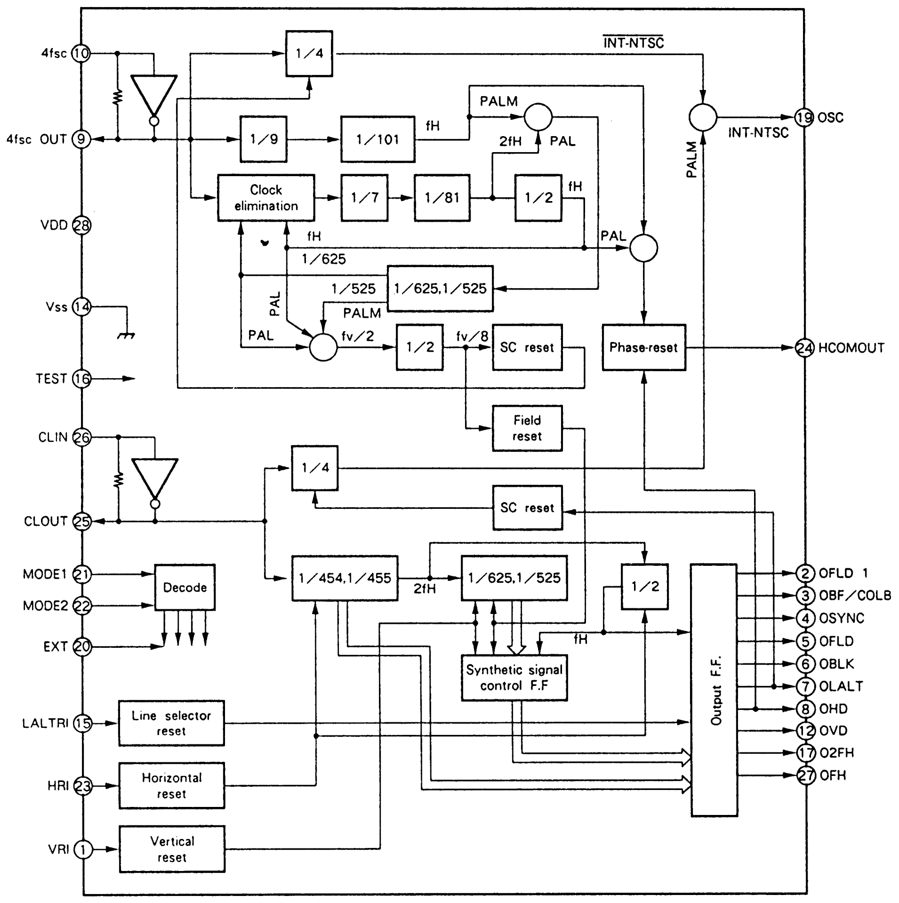
## CB-30 BOARD (1/3)



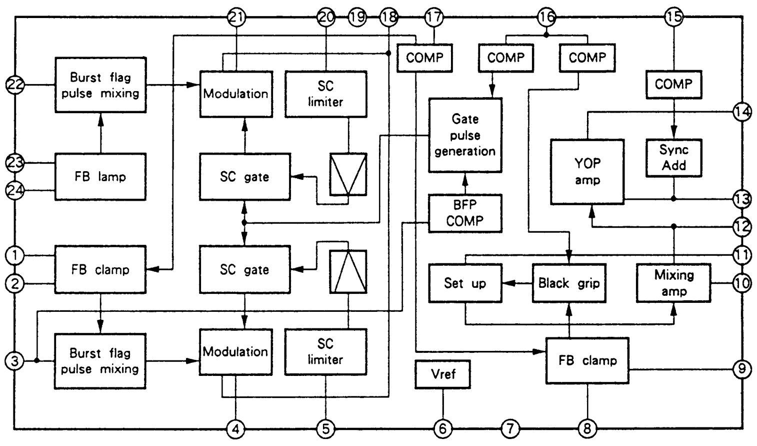
IC107 CXD1216M


INT/EXT detection fv, fh separation
Timing
INT/EXT
fv
fh
SYNCIN 17
11 INT/EXT
8 VR
7 HR
Phase comparison
Analog switch
9 HCOM OUT
HDIN 15
ISCIN 18
ESCIN 4
Phase comparison
1 SCCOM OUT
TGC, BF geration
TGC
BF
20 TGC
HCOM IN 10
LALTIN 12
Sq・W/P・P detection
LALTR geration
19 LALTR
MODE1 5
MODE2 6
External synchronization mode method
M1~M4
CLOCK 14
1/2
VDD 2
VSS 16

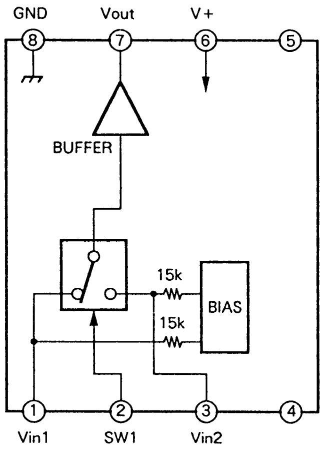
IC109 CXD1217M


4fsc 10
4fsc OUT 9
1/4
INT-NTSC
PALM
PAL
1/9
1/101
fH
2fH
19 OSC
INT-NTSC
Clock elimination
1/7
1/81
1/2
VDD 28
1/625
1/525
1/625,1/525
PALM
Vss 14
PAL
fv/2
1/2
fv/8
SC reset
Phase-reset
24 HCOMOUT
TEST 16
Field reset
CLIN 26
1/4
SC reset
CLOUT 25
MODE1 21
MODE2 22
Decode
1/454,1/455
2fH
1/625,1/525
1/2
EXT 20
Synthetic signal control F.F
Output F.F.
2 OFLD 1
3 OBF/COLB
4 OSYNC
5 OFLD
6 OBLK
7 OLALT
8 OHD
12 OVD
17 O2FH
27 OFH
LALTRI 15
Line selector reset
HRI 23
Horizontal reset
VRI 1
Vertical reset

IC125 M5172FP


21
20
19
18
17
16
15
22
Burst flag pulse mixing
Modulation
SC limiter
COMP
COMP
COMP
COMP
14
23
24
FB lamp
SC gate
Gate pulse generation
YOP amp
Sync Add
13
12
BFP COMP
1
2
FB clamp
SC gate
11
Set up
Black grip
Mixing amp
10
3
Burst flag pulse mixing
Modulation
SC limiter
Vref
FB clamp
9
4
5
6
7
8

IC128 NJM2233AF


GND
Vout
V+
8
7
6
5
BUFFER
15k
15k
BIAS
1
2
3
4
Vin1
SW1
Vin2

< DIODE >

| | | | |
|---|---|---|---|
| D001 | 8-719-800-76 | DIODE | 1SS226 |
| D002 | 8-719-800-76 | DIODE | 1SS226 |
| D003 | 8-719-800-76 | DIODE | 1SS226 |
| D004 | 8-719-800-76 | DIODE | 1SS226 |
| D101 | 8-719-800-76 | DIODE | 1SS226 |
| D102 | 8-719-800-76 | DIODE | 1SS226 |
| D103 | 8-719-800-76 | DIODE | 1SS226 |
| D104 | 8-719-800-76 | DIODE | 1SS226 |
| D105 | 8-719-105-58 | DIODE | RD3. 9M-B2 |
| D106 | 8-713-300-88 | DIODE | 1T33C-01 |
| D107 | 8-713-300-88 | DIODE | 1T33C-01 |
| D108 | 8-713-300-88 | DIODE | 1T33C-01 |

< IC >

| | | | |
|---|---|---|---|
| IC001 | 8-752-816-69 | IC | CXP50116-224Q |
| IC002 | 8-759-938-68 | IC | CXD1095Q |
| IC004 | 8-759-979-37 | IC | MSM72H017FS |
| IC006 | 8-759-232-90 | IC | TC74HC241AF |
| IC007 | 8-759-100-96 | IC | uPC4558G2 |
| IC008 | 8-759-231-93 | IC | TC74HC4051AF |
| IC009 | 8-759-908-17 | IC | TL082CPS |
| IC010 | 8-759-908-17 | IC | TL082CPS |
| IC011 | 8-759-908-17 | IC | TL082CPS |
| IC012 | 8-759-908-17 | IC | TL082CPS |
| IC013 | 8-759-925-85 | IC | SN74HC32NS |
| IC014 | 8-759-230-XX | IC | TC74HC4053AF |
| IC015 | 8-759-230-XX | IC | TC74HC4053AF |
| IC016 | 8-759-230-XX | IC | TC74HC4053AF |
| IC019 | 8-759-242-74 | IC | TC7W04F |
| IC020 | 8-759-242-76 | IC | TC7W08F |
| IC021 | 8-759-242-74 | IC | TC7W04F |
| IC022 | 8-759-242-74 | IC | TC7W04F |
| IC023 | 8-759-242-76 | IC | TC7W08F |
| IC027 | 8-759-232-32 | IC | TC74HC74AF |
| IC028 | 8-759-239-23 | IC | TC74HC86AF |
| IC029 | 8-759-032-01 | IC | MC74HC00AF |
| IC030 | 8-759-232-32 | IC | TC74HC74AF |
| IC031 | 8-759-232-32 | IC | TC74HC74AF |
| IC032 | 8-759-232-32 | IC | TC74HC74AF |
| IC033 | 8-759-232-32 | IC | TC74HC74AF |
| IC034 | 8-759-232-32 | IC | TC74HC74AF |
| IC101 | 8-759-105-49 | IC | uPC319G2 |
| IC102 | 8-759-907-81 | IC | SN74LS221NS |
| IC103 | 8-759-105-49 | IC | uPC319G2 |
| IC104 | 8-759-242-72 | IC | TC7W00F |
| IC107 | 8-752-335-47 | IC | CXD1216M |
| IC108 | 8-759-230-XX | IC | TC74HC4053AF |
| IC109 | 8-752-332-67 | IC | CXD1217M |
| IC112 | 8-759-907-81 | IC | SN74LS221NS |
| IC113 | 8-759-908-17 | IC | TL082CPS |
| IC114 | 8-759-902-88 | IC | SN74LS123NS |
| IC115 | 8-759-907-81 | IC | SN74LS221NS |
| IC116 | 8-759-232-90 | IC | TC74HC241AF |
| IC117 | 8-759-230-XX | IC | TC74HC4053AF |
| IC118 | 8-759-230-XX | IC | TC74HC4053AF |
| IC119 | 8-759-925-72 | IC | SN74HC02NS |
| IC120 | 8-759-239-23 | IC | TC74HC86AF-TP1 |
| IC121 | 8-759-907-81 | IC | SN74LS221NS |
| IC123 | 8-759-242-70 | IC | TC7WU04F |
| IC124 | 8-759-232-32 | IC | TC74HC74AF |
| IC125 | 8-759-603-56 | IC | M51272FP |
| IC126 | 8-759-230-XX | IC | TC74HC4053AF |
| IC127 | 8-759-907-81 | IC | SN74LS221NS |
| IC128 | 8-759-710-09 | IC | NJM2233AM |
| IC129 | 8-759-242-72 | IC | TC7W00F |
| IC901 | 8-759-926-28 | IC | SN74HC174NS |
| IC902 | 8-759-925-74 | IC | SN74HC04NS |
| IC903 | 8-759-925-85 | IC | SN74HC32NS |
| IC904 | 8-759-232-52 | IC | TC74HC133AF |
| IC905 | 8-759-926-28 | IC | SN74HC174NS |
| IC906 | 8-759-926-28 | IC | SN74HC174NS |
| IC907 | 8-759-232-52 | IC | TC74HC133AF |
| IC908 | 8-759-926-28 | IC | SN74HC174NS |
| IC909 | 8-759-240-80 | IC | TC74HC153AF |
| IC911 | 8-759-926-28 | IC | SN74HC174NS |

< TRANSISTOR >

| | | | |
|---|---|---|---|
| Q001 | 8-729-119-48 | TRANSISTOR | 2SA1464-Y13 |
| Q002 | 8-729-119-48 | TRANSISTOR | 2SA1464-Y13 |
| Q003 | 8-729-140-47 | TRANSISTOR | 2SC3735-L-B35 |
| Q004 | 8-729-140-47 | TRANSISTOR | 2SC3735-L-B35 |
| Q005 | 8-729-216-22 | TRANSISTOR | 2SA1162 |
| Q006 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q007 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q008 | 8-729-216-22 | TRANSISTOR | 2SA1162 |
| Q009 | 8-729-216-22 | TRANSISTOR | 2SA1162 |
| Q010 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q011 | 8-729-140-47 | TRANSISTOR | 2SC3735-L-B35 |
| Q012 | 8-729-140-47 | TRANSISTOR | 2SC3735-L-B35 |
| Q013 | 8-729-140-47 | TRANSISTOR | 2SC3735-L-B35 |
| Q101 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q102 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q103 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q104 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q105 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q106 | 8-729-216-22 | TRANSISTOR | 2SA1162 |
| Q107 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q108 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q109 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q110 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q111 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q112 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q113 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q114 | 8-729-216-22 | TRANSISTOR | 2SA1162 |
| Q115 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q116 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q118 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q119 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q121 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q122 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q123 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q124 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q125 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q126 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q127 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q128 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q129 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q130 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q131 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q132 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q133 | 8-729-100-66 | TRANSISTOR | 2SC1623 |

## CB-30 BOARD

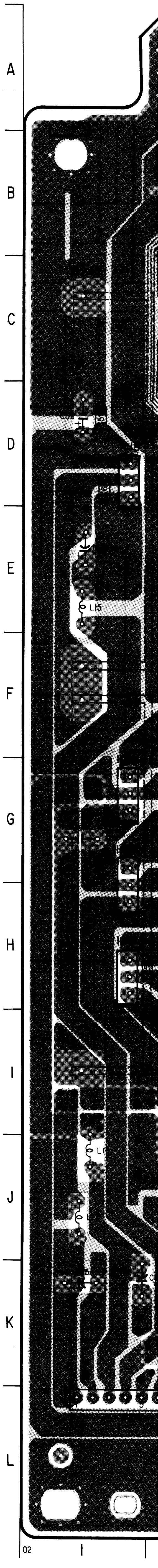
| | |
|---|---|
| D001 | J-6 |
| D002 | I-5 |
| D003 | I-5 |
| D004 | I-5 |
| D101 | B-15 |
| D102 | E-16 |
| D103 | D-16 |
| D104 | C-14 |
| D105 | C-16 |
| D106 | C-12 |
| D107 | B-11 |
| D108 | D-8 |
| IC001 | H-14 |
| IC002 | J-9 |
| IC003 | G-4 |
| IC004 | J-3 |
| IC005 | J-15 |
| IC006 | F-14 |
| IC007 | H-15 |
| IC008 | H-15 |
| IC009 | G-15 |
| IC010 | G-16 |
| IC011 | F-15 |
| IC012 | F-16 |
| IC013 | I-6 |
| IC014 | H-5 |
| IC015 | H-7 |
| IC016 | J-7 |
| IC017 | H-1 |
| IC018 | D-1 |
| IC019 | I-16 |
| IC020 | G-13 |
| IC021 | J-14 |
| IC022 | I-7 |
| IC023 | J-5 |
| IC024 | I-14 |
| IC025 | G-1 |
| IC026 | G-1 |
| IC027 | J-13 |
| IC028 | F-6 |
| IC029 | G-6 |
| IC030 | F-5 |
| IC031 | F-13 |
| IC032 | F-13 |
| IC033 | G-7 |
| IC034 | E-14 |
| IC101 | C-15 |
| IC102 | D-16 |
| IC103 | B-16 |
| IC104 | B-16 |
| IC107 | D-12 |
| IC108 | D-11 |
| IC109 | B-13 |
| IC112 | B-2 |
| IC113 | B-10 |
| IC114 | C-11 |
| IC115 | D-9 |
| IC116 | C-13 |
| IC117 | C-7 |
| IC118 | C-7 |
| IC119 | D-6 |
| IC120 | C-9 |
| IC121 | C-6 |
| IC123 | B-8 |
| IC124 | B-8 |
| IC125 | C-4 |
| IC126 | C-2 |
| IC127 | A-3 |
| IC128 | D-3 |
| IC129 | D-14 |
| IC901 | F-10 |
| IC902 | G-11 |
| IC903 | G-12 |
| IC904 | G-10 |
| IC905 | J-10 |
| IC906 | I-12 |
| IC907 | I-11 |
| IC908 | G-9 |
| IC909 | H-9 |
| IC910 | F-11 |
| IC911 | G-9 |
| Q001 | J-6 |
| Q002 | J-6 |
| Q003 | J-6 |
| Q004 | J-6 |
| Q005 | J-5 |
| Q006 | K-5 |
| Q007 | K-5 |
| Q008 | K-5 |
| Q009 | K-5 |
| Q010 | K-4 |
| Q011 | J-17 |
| Q012 | J-17 |
| Q013 | K-17 |
| Q101 | D-16 |
| Q102 | B-16 |
| Q103 | C-17 |
| Q104 | B-17 |
| Q105 | A-16 |
| Q106 | A-15 |
| Q107 | B-15 |
| Q108 | E-16 |
| Q109 | E-16 |
| Q110 | D-16 |
| Q111 | D-16 |
| Q112 | C-15 |
| Q113 | B-15 |
| Q114 | B-14 |
| Q115 | A-15 |
| Q116 | A-14 |
| Q118 | C-13 |
| Q119 | B-12 |
| Q121 | B-7 |
| Q122 | B-5 |
| Q123 | B-4 |
| Q124 | A-7 |
| Q125 | B-5 |
| Q126 | A-4 |
| Q127 | B-7 |
| Q128 | B-5 |
| Q129 | B-5 |
| Q130 | C-8 |
| Q131 | C-2 |
| Q132 | E-2 |
| Q133 | D-2 |

For printed wiring boards :

- ○— : indicates a lead wire mounted on the componet side.
- ●— : indicates a lead wire mounted on the printed side.
- ● : Through hole.
- ▇ : Pattern from the side which enables seeing.
- ▒ : Pattern of the rear side.

When indicating parts by reference number, please include the board name.

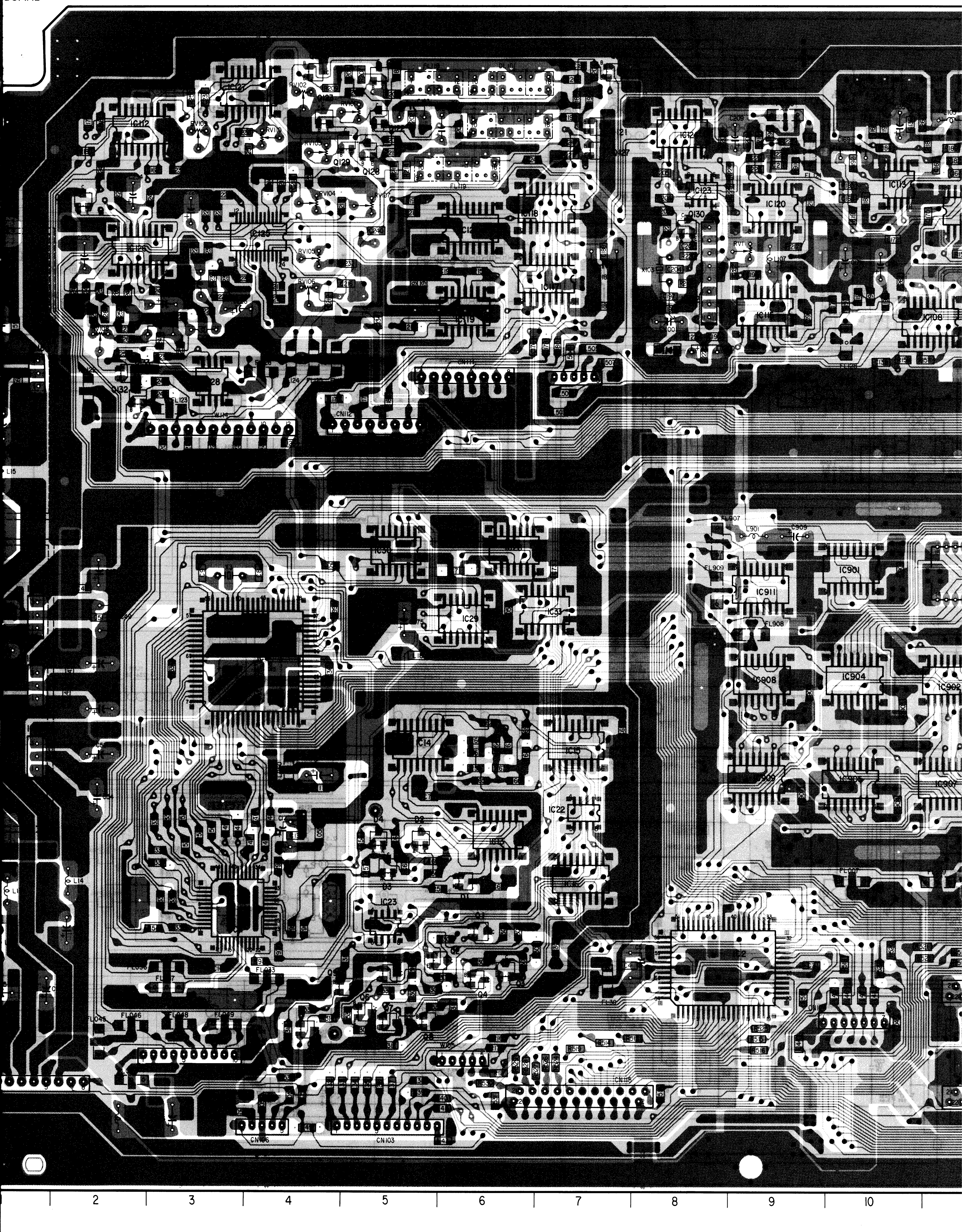
## CB-30 BOARD

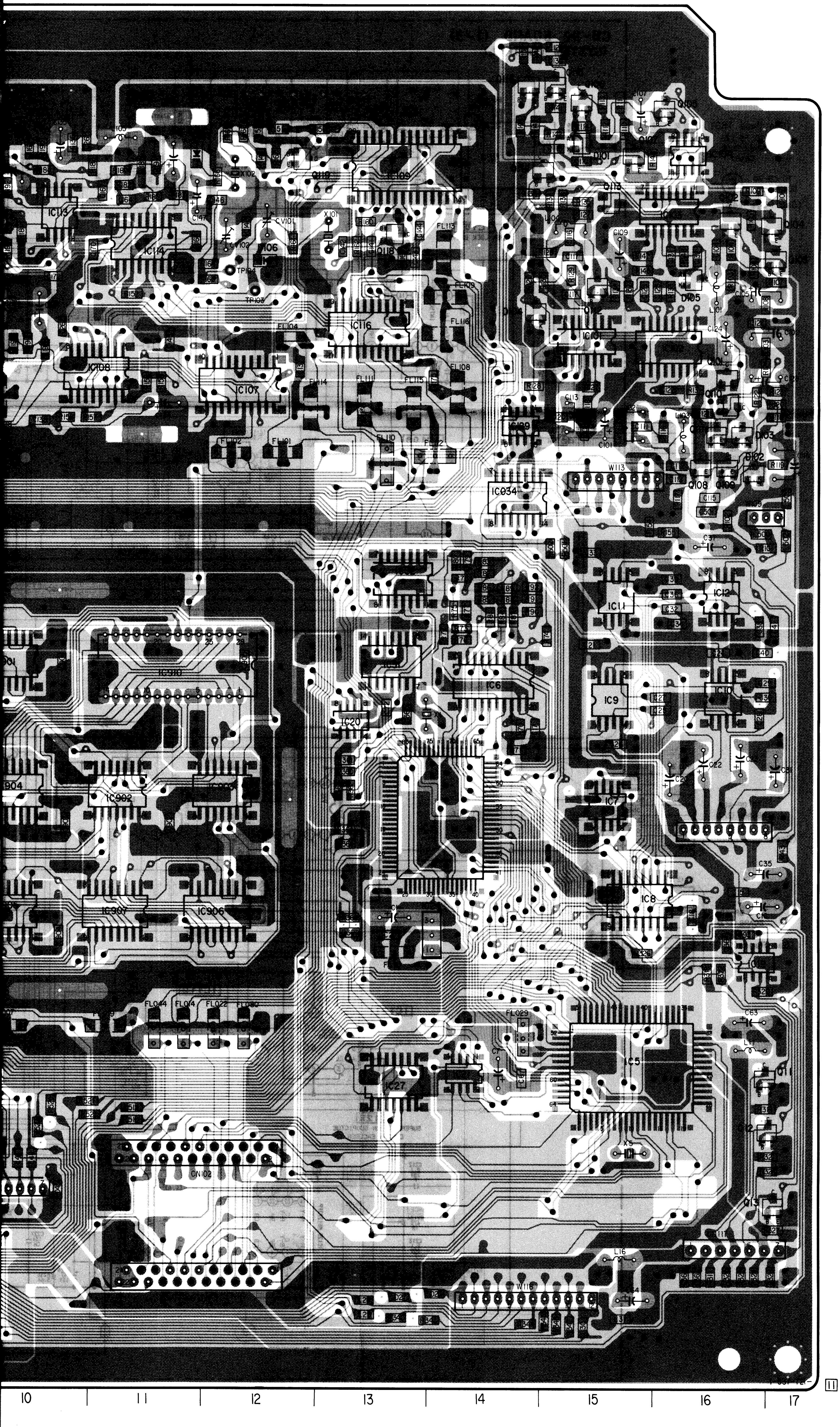


**TEM CONTROL) PRINTED WIRING BOARD**

-30 BOARD : 6,000 Series—

BOARD

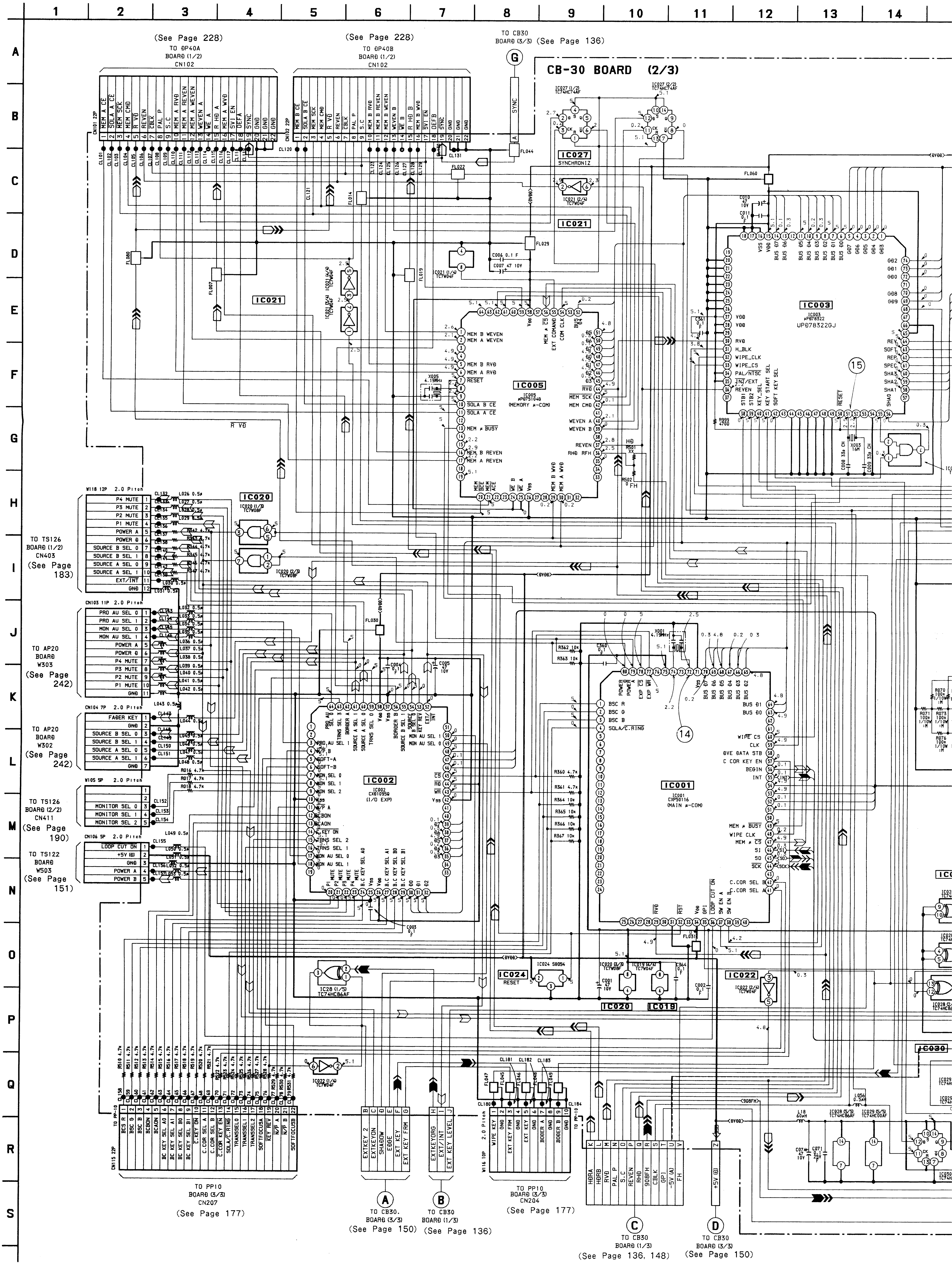

IC112
IC127
RV102
RV103
RV109
RV110
RV101
RV104
RV105
RV106
RV107
Q127
Q128
Q129
Q130
Q132
IC126
IC125
IC118
IC119
IC117
IC121
IC123
IC120
IC113
IC111
IC108
IC128
FL118
FL119
FL117
FL121
FL123
FL120
DL101
CN111
CN112
W115
L15
L14
L107
RV1
X103
C208
C204
C909
L901
FL907
FL909
FL908
IC901
IC911
IC908
IC904
IC902
IC909
IC906
IC907
IC30
IC29
IC33
IC14
IC15
IC22
IC23
IC32
FL07
FL045
FL046
FL048
FL049
FL047
FL073
FL036
FL30
W105
CN106
CN103
CN115
2
3
4
5
6
7
8
9
10

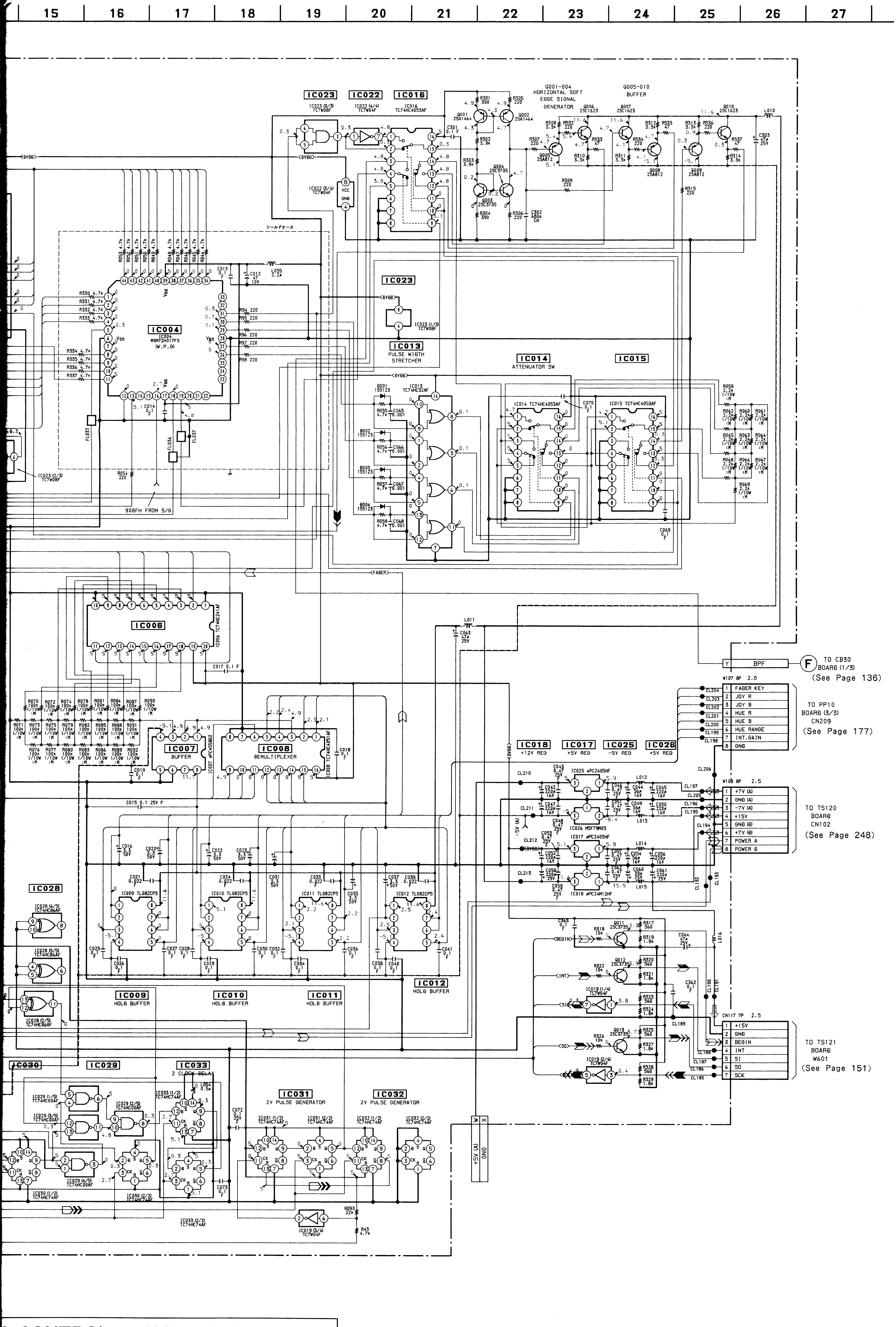

IC113
IC114
IC108
IC107
IC116
IC109
IC101
IC034
IC11
IC12
IC9
IC10
IC6
IC20
IC7
IC8
IC5
IC27
IC910
IC902
IC907
IC906
CN102
W113
W116
X101
X3
Q113
Q118
Q108
Q109
Q110
D105
D106
D103
L16
L11
FL101
FL102
FL104
FL108
FL109
FL110
FL111
FL112
FL113
FL114
FL115
FL116
FL029
FL044
FL014
FL022
C35
C63
C22
C20
C109
C124
C113
C115
TP103
10
11
12
13
14
15
16
17
11

SYSTEM CONTROL SYSTEM CONTROL

## CB-30 (2/3) (SYSTEM CONTROL) SCHEMATIC DIAGRAM

–Ref. No. CB-30 BOARD : 6,000 Series–


1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
CB-30 BOARD (2/3)
(See Page 228) TO DP40A BOARD (1/2) CN102
(See Page 228) TO DP40B BOARD (1/2) CN102
TO CB30 BOARD (3/3) (See Page 136)
IC027 SYNCHRONIZ
IC021
IC003 μPD78322 UPD78322GJ
IC005 μPD75104B (MEMORY μ-COM)
IC020 TC7W08F
IC002 CX61095Q (I/O EXP)
IC001 CXP50116 (MAIN μ-COM)
IC024 S8054 RESET
IC019
IC022
IC28 (1/5) TC74HC86AF
IC030
X005 4.19MHz
X001 4.19MHz
TO TS126 BOARD (1/2) CN403 (See Page 183)
TO AP20 BOARD W303 (See Page 242)
TO AP20 BOARD W302 (See Page 242)
TO TS126 BOARD (2/2) CN411 (See Page 190)
TO TS122 BOARD W503 (See Page 151)
TO PP10 BOARD (3/3) CN207 (See Page 177)
TO CB30. BOARD (3/3) (See Page 150)
TO CB30 BOARD (1/3) (See Page 136)
TO PP10 BOARD (3/3) CN204 (See Page 177)
TO CB30 BOARD (1/3) (See Page 136, 148)
TO CB30 BOARD (3/3) (See Page 150)
(14)
(15)


15
16
17
18
19
20
21
22
23
24
25
26
27
IC023
IC022
IC016
IC023 (3/3) TC7W08F
IC022 (4/4) TC7W04F
IC016 TC74HC4053AF
Q001-004 HORIZONTAL SOFT EDGE SIGNAL GENERATOR
Q005-010 BUFFER
Q001 2SA1464
Q002 2SA1464
Q003 2SC3735
Q004 2SC3735
Q005 2SA812
Q006 2SC1623
Q007 2SC1623
Q008 2SA812
Q009 2SA812
Q010 2SC1623
IC022 (3/4) TC7W04F
IC004
IC004 MSM72H017FS (W.P.G)
IC023
IC023 (1/3) TC7W08F
IC013
PULSE WIDTH STRETCHER
IC014
ATTENUATOR SW
IC015
IC013 TC74HC32AF
IC014 TC74HC4053AF
IC015 TC74HC4053AF
IC023 (2/3) TC7W08F
908FH FROM S/G
<FADER>
IC006
IC006 TC74HC241AF
IC007
BUFFER
IC007 μPC4558G2
IC008
DEMULTIPLEXER
IC008 TC74HC4051AF
IC018 +12V REG
IC017 +5V REG
IC025 -5V REG
IC026 +5V REG
IC025 μPC2405HF
IC026 MSF79M05
IC017 μPC2405HF
IC018 μPC24M12HF
Y
BPF
F
TO CB30 BOARD (1/3) (See Page 136)
W107 8P 2.0
1 FADER KEY
2 JOY R
3 JOY B
4 HUE R
5 HUE B
6 HUE RANGE
7 INT.GAIN
8 GND
TO PP10 BOARD (3/3) CN209 (See Page 177)
W108 8P 2.5
1 +7V (A)
2 GND (A)
3 -7V (A)
4 +15V
5 GND (B)
6 +7V (B)
7 POWER A
8 POWER B
TO TS120 BOARD CN102 (See Page 248)
IC028
IC028 (4/5) TC74HC86AF
IC028 (3/5) TC74HC86AF
IC028 (2/5) TC74HC86AF
IC009 TL082CPS
IC010 TL082CPS
IC011 TL082CPS
IC012 TL082CPS
IC009 HOLD BUFFER
IC010 HOLD BUFFER
IC011 HOLD BUFFER
IC012 HOLD BUFFER
Q011 2SC3735
Q012 2SC3735
Q013 2SC3735
<BEGIN>
<INT>
<SI>
<SO>
IC019 (1/4) TC7W04F
IC019 (2/4) TC7W04F
CN117 7P 2.5
1 +15V
2 GND
3 BEGIN
4 INT
5 SI
6 SO
7 SCK
TO TS121 BOARD W601 (See Page 151)
IC030
IC029
IC033
2 CLOCK DELAY
IC029 (1/5) TC74HC00AF
IC029 (2/5) TC74HC00AF
IC029 (3/5) TC74HC00AF
IC029 (4/5) TC74HC00AF
IC030 (1/2) TC74HC74AF
IC030 (2/2) TC74HC74AF
IC033 (1/2) TC74HC74AF
IC033 (2/2) TC74HC74AF
IC031
2V PULSE GENERATOR
IC032
2V PULSE GENERATOR
IC031 (1/2) TC74HC74AF
IC031 (2/2) TC74HC74AF
IC032 (1/2) TC74HC74AF
IC032 (2/2) TC74HC74AF
IC019 (3/4) TC7W04F
+5V (A)
GND
W
X

• Signal path

SOURCE S

Y

CHROMA

Y／CHROMA

R－Y

B－Y

SYNC

HD

VD

CONTROL

CONTROL

A／D REF

KEY PULSE

SC

CLK

BEGIN

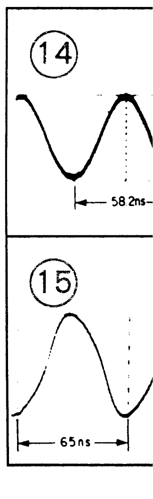
INT

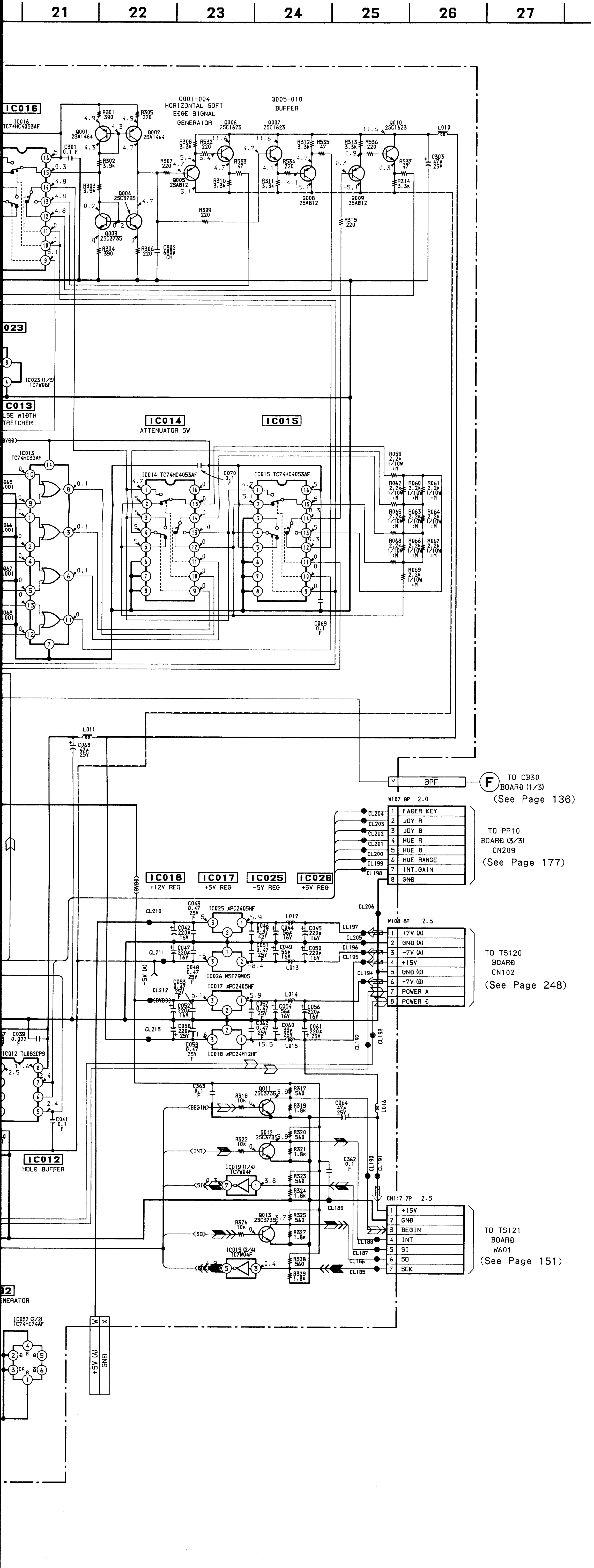
SIRIAL IN

SIRIAL OUT

AUDIO Signa

## CB-30 BC




21
22
23
24
25
26
27
IC016
IC016 TC74HC4053AF
Q001-004 HORIZONTAL SOFT EDGE SIGNAL GENERATOR
Q005-010 BUFFER
Q001 2SA1464
Q002 2SA1464
Q003 2SC3735
Q004 2SC3735
Q005 2SA812
Q006 2SC1623
Q007 2SC1623
Q008 2SA812
Q009 2SA812
Q010 2SC1623
L010
C303 47μ 25V
C301 0.1 F
C302 680p CH
IC023
IC023 (1/3) TC7W08F
IC013
PULSE WIDTH STRETCHER
IC013 TC74HC32AF
IC014
ATTENUATOR SW
IC014 TC74HC4053AF
IC015
IC015 TC74HC4053AF
C070 0.1 F
C069 0.1 F
L011
C063 47μ 25V
Y
BPF
F
TO CB30 BOARD (1/3)
(See Page 136)
W107 8P 2.0
FADER KEY
JOY R
JOY B
HUE R
HUE B
HUE RANGE
INT.GAIN
GND
TO PP10 BOARD (3/3) CN209
(See Page 177)
IC018
+12V REG
IC017
+5V REG
IC025
-5V REG
IC026
+5V REG
IC025 μPC2405HF
IC026 MSF79M05
IC017 μPC2405HF
IC018 μPC24M12HF
L012
L013
L014
L015
W108 8P 2.5
+7V (A)
GND (A)
-7V (A)
+15V
GND (B)
+7V (B)
POWER A
POWER B
TO TS120 BOARD CN102
(See Page 248)
IC012 TL082CPS
IC012
HOLD BUFFER
C039 0.022
C041 0.1 F
Q011 2SC3735
Q012 2SC3735
Q013 2SC3735
IC019 (1/4) TC7W04F
IC019 (2/4) TC7W04F
BEGIN
INT
SI
SO
SCK
C064 47μ 25V
C362 0.1 F
L016
CN117 7P 2.5
+15V
GND
BEGIN
INT
SI
SO
SCK
TO TS121 BOARD W601
(See Page 151)
GENERATOR
IC032 (2/2) TC74HC74AF
+5V (A)
GND

• Signal path

SOURCE Signal

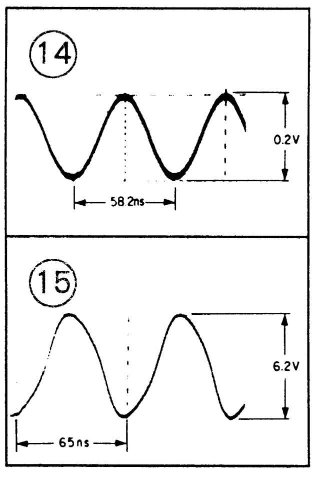
| | |
|---|---|
| Y | ➡ |
| CHROMA | ➡ |
| Y／CHROMA | ➡ |
| R－Y | ⇨ |
| B－Y | ⇨ |
| SYNC | ▷ |
| HD | ▷ |
| VD | ▷ |

CONTROL Signal

| | |
|---|---|
| CONTROL | ▷ |
| A／D REF | ▶ |
| KEY PULSE | ▶ |
| SC | ▶ |
| CLK | ▶ |
| BEGIN | ▷ |
| INT | ▶ |
| SIRIAL IN | ▶ |
| SIRIAL OUT | ▶ |
| AUDIO Signal | ⇨ |

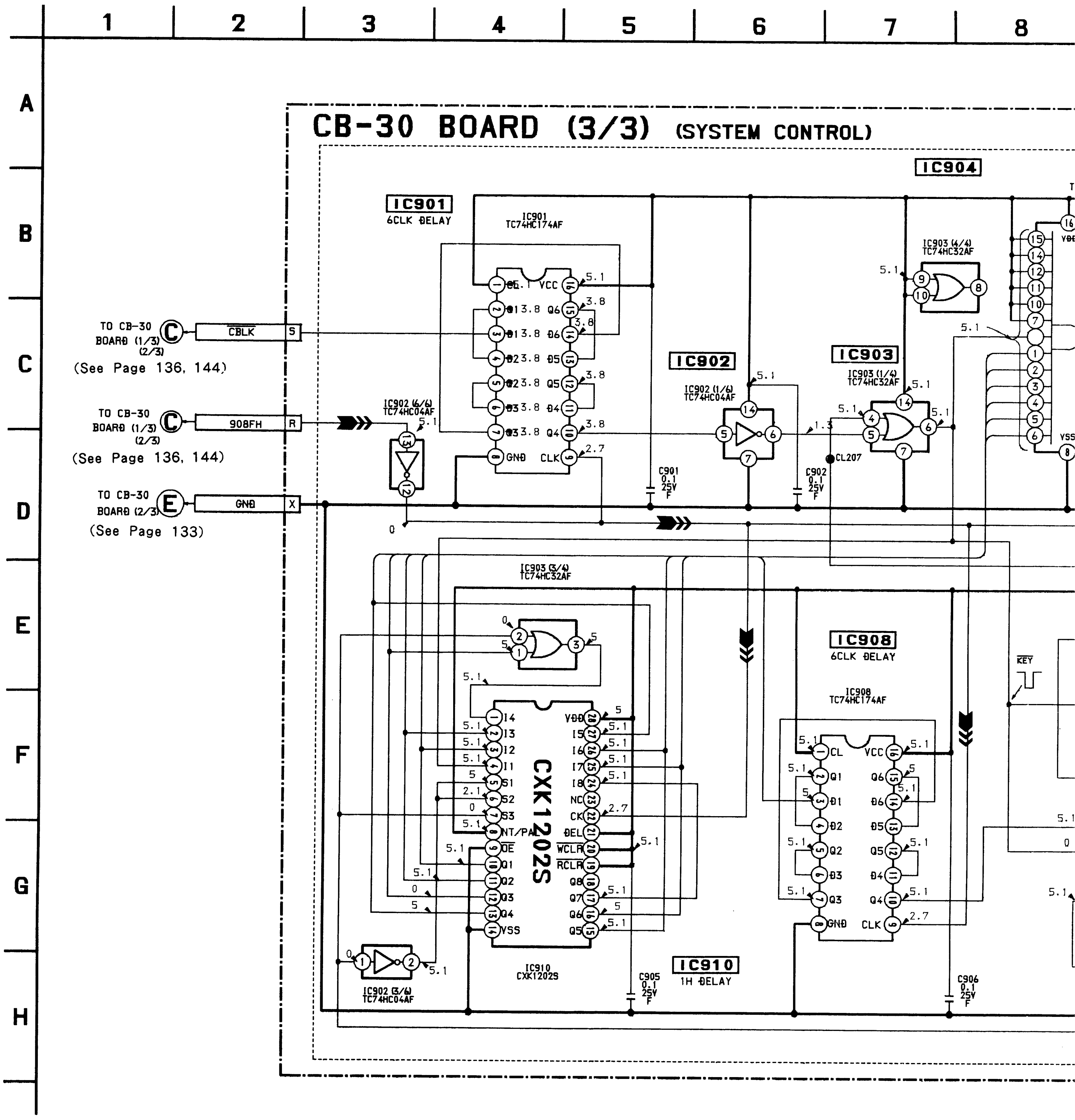
When indicating parts by reference number, please include the board name.

## CB-30 BOARD (2／3)



## CB-30 (3/3) (SYSTEM CONTROL) SCHEMATIC DIAGRAM

—Ref. No. CB-30 BOARD : 6,000 Series—

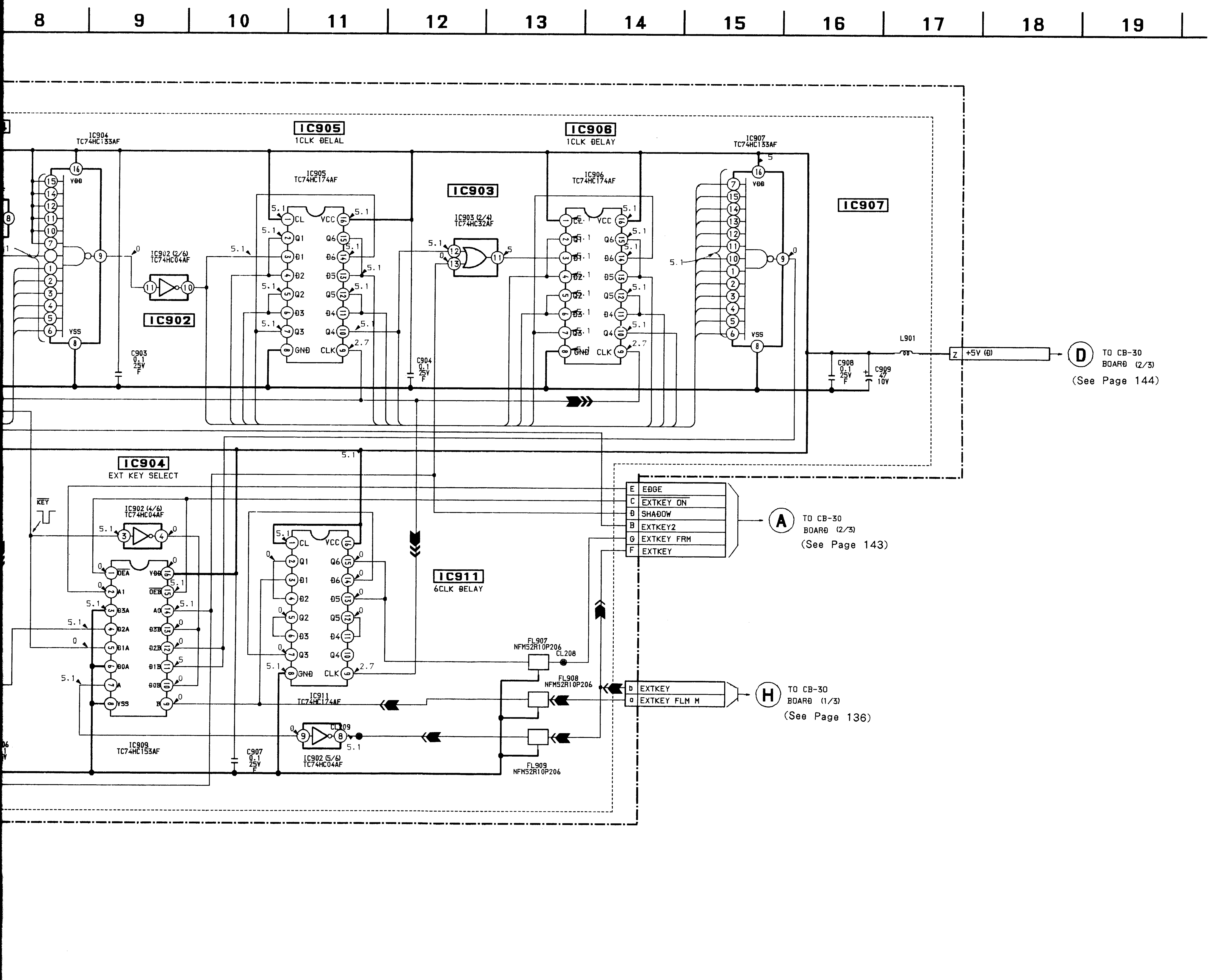

1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
H
CB-30 BOARD (3/3) (SYSTEM CONTROL)
IC901
6CLK DELAY
IC901
TC74HC174AF
CL 5.1 VCC
D1 3.8 Q6
Q1 3.8 D6
D2 3.8 D5
Q2 3.8 Q5
D3 3.8 D4
Q3 3.8 Q4
GND CLK
2.7
TO CB-30 BOARD (1/3) (2/3)
(See Page 136, 144)
CBLK
S
908FH
R
TO CB-30 BOARD (2/3)
(See Page 133)
GND
X
IC902 (6/6)
TC74HC04AF
C901
0.1
25V
F
IC902
IC902 (1/6)
TC74HC04AF
IC903
IC903 (1/4)
TC74HC32AF
C902
0.1
25V
F
CL207
IC904
IC903 (4/4)
TC74HC32AF
VDD
VSS
IC903 (3/4)
TC74HC32AF
I4
I3
I2
I1
S1
S2
S3
NT/PAL
OE
Q1
Q2
Q3
Q4
VSS
VDD
I5
I6
I7
I8
NC
CK
DEL
WCLR
RCLR
Q8
Q7
Q6
Q5
CXK1202S
IC910
CXK1202S
IC902 (3/6)
TC74HC04AF
C905
0.1
25V
F
IC910
1H DELAY
IC908
6CLK DELAY
IC908
TC74HC174AF
CL VCC
Q1 Q6
D1 D6
D2 D5
Q2 Q5
D3 D4
Q3 Q4
GND CLK
C906
0.1
25V
F
KEY

- Signal path

SOURCE Signal
Y ➡
CHROMA ➡
Y/CHROMA ➡
R−Y ⇨
B−Y ⇨
SYNC ▷
HD ▷
VD ▷

CONTROL Signal
CONTROL ▷
A/D REF ▶
KEY PULSE ▶
SC ▶
CLK ▶
BEGIN ▷
INT ▶
SIRIAL IN ▶
SIRIAL OUT ▶
AUDIO Signal ⇨

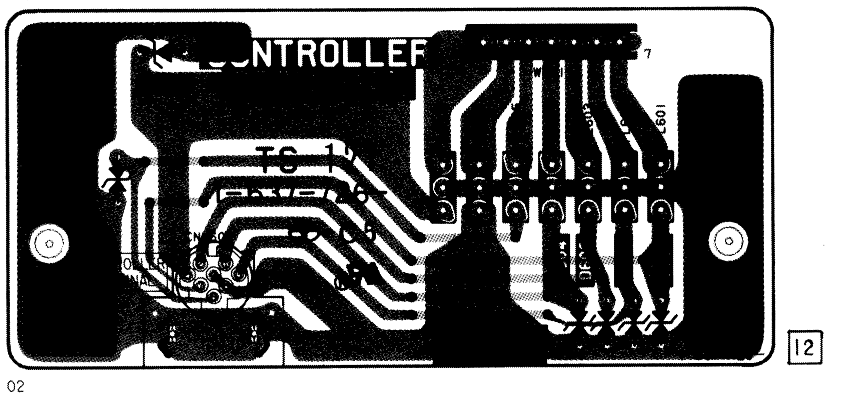
When indicating parts by reference number, please include the board name.


8
9
10
11
12
13
14
15
16
17
18
19
IC904
TC74HC133AF
IC905
1CLK DELAL
IC905
TC74HC174AF
IC906
1CLK DELAY
IC906
TC74HC174AF
IC903
IC903 (2/4)
TC74HC32AF
IC907
TC74HC133AF
IC907
IC902 (2/6)
TC74HC04AF
IC902
C903
0.1
25V
F
C904
0.1
25V
F
C908
0.1
25V
F
C909
47
10V
L901
Z +5V (D)
D
TO CB-30
BOARD (2/3)
(See Page 144)
IC904
EXT KEY SELECT
KEY
IC902 (4/6)
TC74HC04AF
IC911
6CLK DELAY
IC911
TC74HC174AF
IC909
TC74HC153AF
C907
0.1
25V
F
IC902 (5/6)
TC74HC04AF
FL907
NFM52R10P206
CL208
FL908
NFM52R10P206
FL909
NFM52R10P206
CL209
E EDGE
C EXTKEY ON
D SHADOW
B EXTKEY2
G EXTKEY FRM
F EXTKEY
A
TO CB-30
BOARD (2/3)
(See Page 143)
b EXTKEY
a EXTKEY FLM M
H
TO CB-30
BOARD (1/3)
(See Page 136)

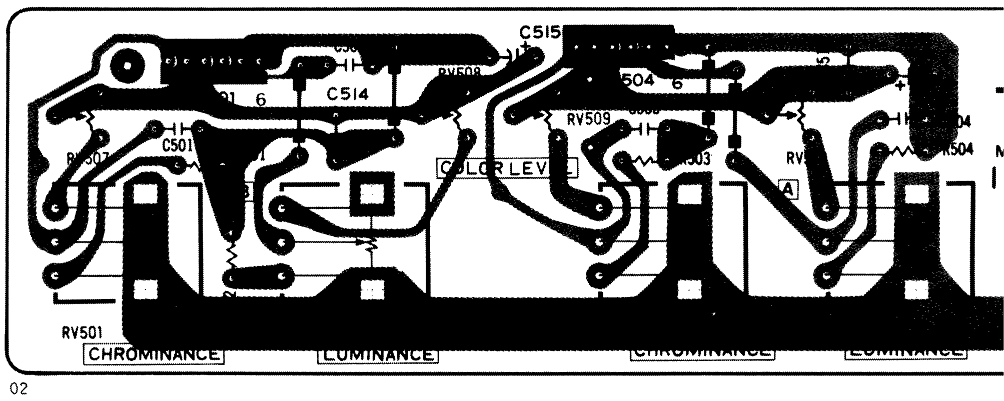
## TS-121 (CONTROL TERMINAL), TS-122 (POWER LED), TS-123 (FRONT INPUT) PRINTED WIRING BOARDS

—Ref. No. TS-121 BOARD : 2,000 Series, TS-122, TS-123 BOARDS : 1,000 Series—

TS-121 BOARD


CONTROLLER
TS-121
CNJ601
12
02

TS-122 BOARD


C515
C514
C501
RV508
RV509
RV507
RV504
COLOR LEVEL
A
RV501
CHROMINANCE
LUMINANCE
02

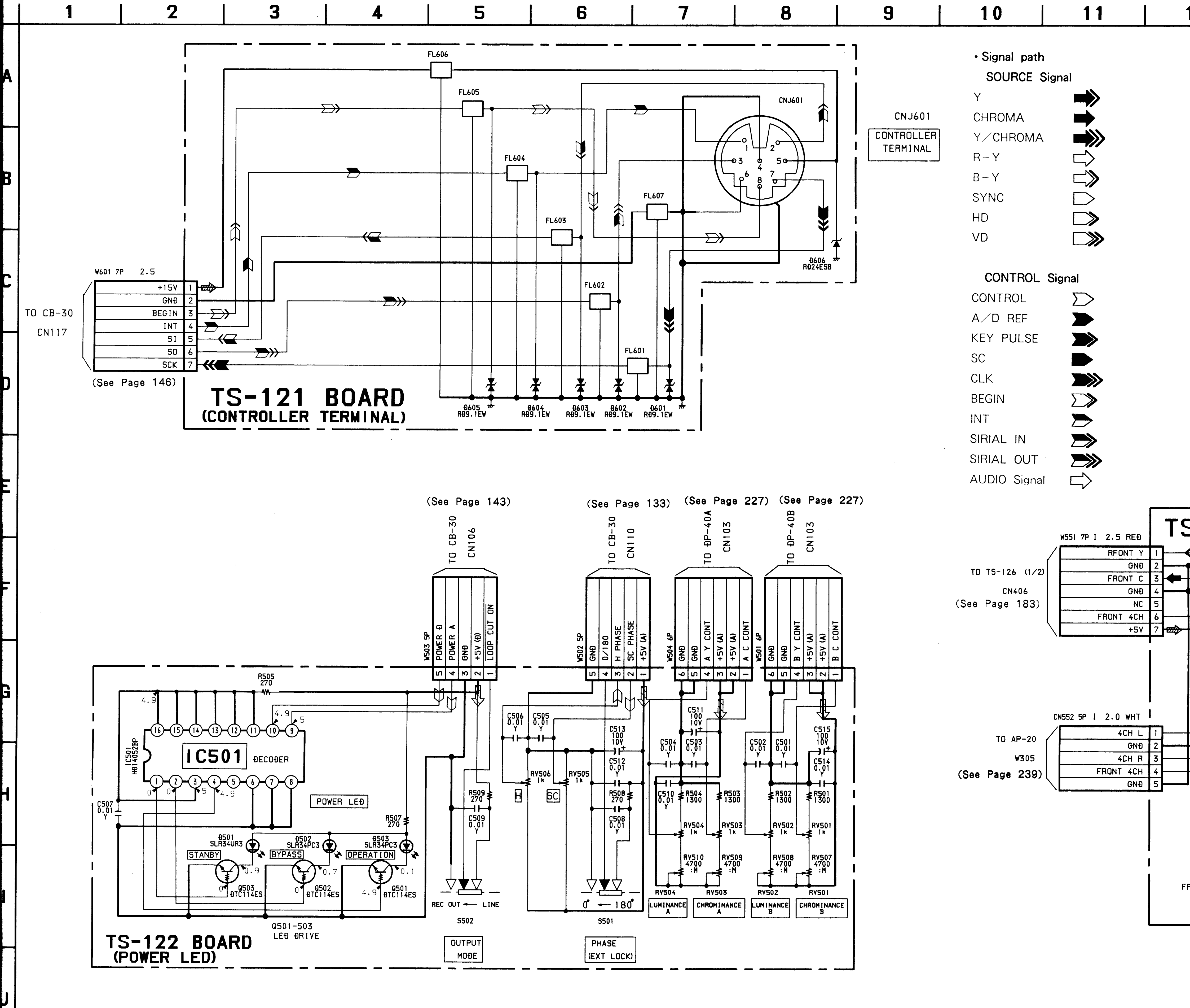
For printed wiring boards :

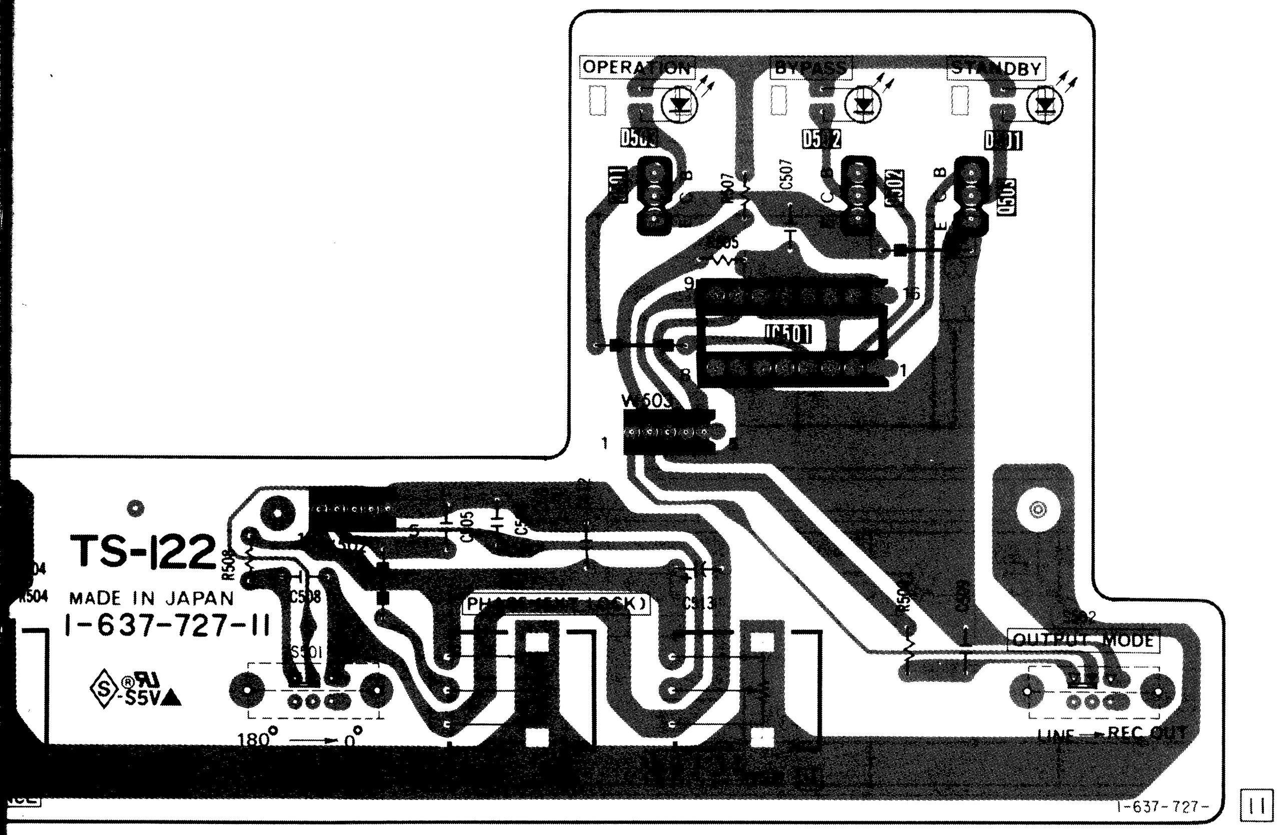
- o— : indicates a lead wire mounted on the componet side.
- •— : indicates a lead wire mounted on the printed side.
- ● : Through hole.
- ▇ : Pattern from the side which enables seeing.
- ▒ : Pattern of the rear side.

When indicating parts by reference number, please include the board name.

## TS-121 (CONTROL TERMINAL), TS-122 (POWER LED), TS-123 (FRONT INPUT) SCHEMATIC DIAGRAMS

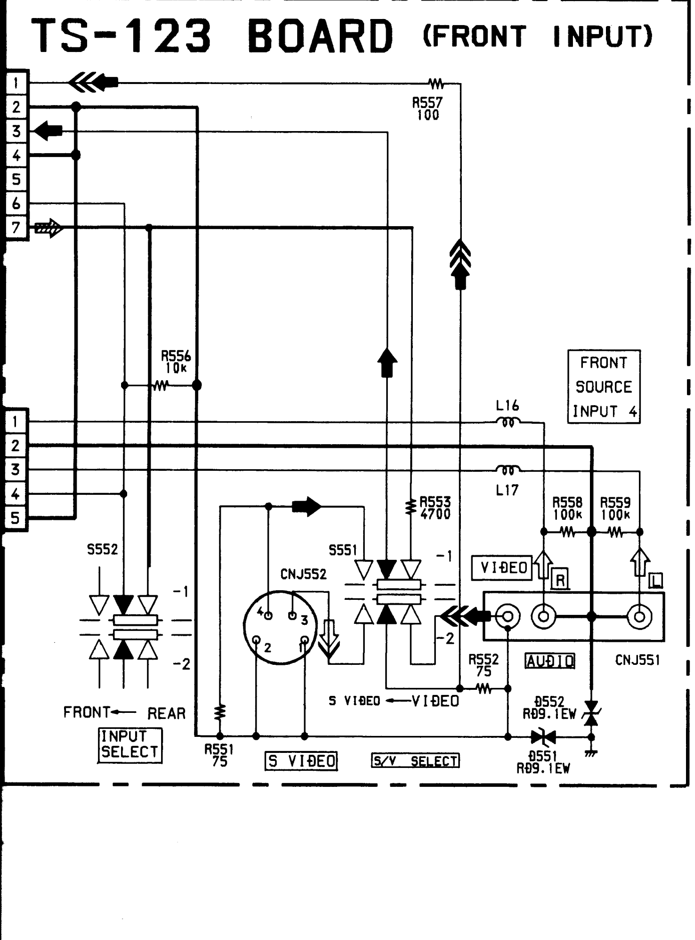
—Ref. No. TS-121 BOARD : 2,000 Series, TS-122, TS-123 BOARDS : 1,000 Series—


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
• Signal path
SOURCE Signal
Y
CHROMA
Y/CHROMA
R-Y
B-Y
SYNC
HD
VD
CONTROL Signal
CONTROL
A/D REF
KEY PULSE
SC
CLK
BEGIN
INT
SIRIAL IN
SIRIAL OUT
AUDIO Signal
FL606
FL605
FL604
FL603
FL607
FL602
FL601
CNJ601
CNJ601
CONTROLLER TERMINAL
D606 RD24ESB
W601 7P 2.5
+15V
GND
BEGIN
INT
SI
SO
SCK
TO CB-30 CN117
(See Page 146)
TS-121 BOARD
(CONTROLLER TERMINAL)
D605 RD9.1EW
D604 RD9.1EW
D603 RD9.1EW
D602 RD9.1EW
D601 RD9.1EW
(See Page 143)
TO CB-30 CN106
(See Page 133)
TO CB-30 CN110
(See Page 227)
TO DP-40A CN103
(See Page 227)
TO DP-40B CN103
W503 5P
POWER D
POWER A
GND
+5V (D)
LOOP CUT ON
W502 5P
GND
0/180
H PHASE
SC PHASE
+5V (A)
W504 6P
GND
GND
A Y CONT
+5V (A)
+5V (A)
A C CONT
W501 6P
GND
GND
B Y CONT
+5V (A)
+5V (A)
B C CONT
R505 270
IC501 HD14052BP
IC501
DECODER
POWER LED
C507 0.01 Y
R507 270
D501 SLR34UR3
D502 SLR34PC3
D503 SLR34PC3
STANBY
BYPASS
OPERATION
Q503 DTC114ES
Q502 DTC114ES
Q501 DTC114ES
Q501-503 LED DRIVE
TS-122 BOARD
(POWER LED)
C506 0.01 Y
C505 0.01 Y
R509 270
C509 0.01 Y
H
SC
RV506 1k
RV505 1k
C513 100 10V
C512 0.01 Y
R508 270
C508 0.01 Y
REC OUT ← LINE
S502
OUTPUT MODE
0° ← 180°
S501
PHASE (EXT LOCK)
C511 100 10V
C504 0.01 Y
C503 0.01 Y
C510 0.01 Y
R504 1300
R503 1300
RV504 1k
RV503 1k
RV510 4700 :M
RV509 4700 :M
C502 0.01 Y
C501 0.01 Y
C515 100 10V
C514 0.01 Y
R502 1300
R501 1300
RV502 1k
RV501 1k
RV508 4700 :M
RV507 4700 :M
LUMINANCE A
CHROMINANCE A
LUMINANCE B
CHROMINANCE B
W551 7P I 2.5 RED
RFONT Y
GND
FRONT C
GND
NC
FRONT 4CH
+5V
TO TS-126 (1/2) CN406
(See Page 183)
CN552 5P I 2.0 WHT
4CH L
GND
4CH R
FRONT 4CH
GND
TO AP-20 W305
(See Page 239)
TS

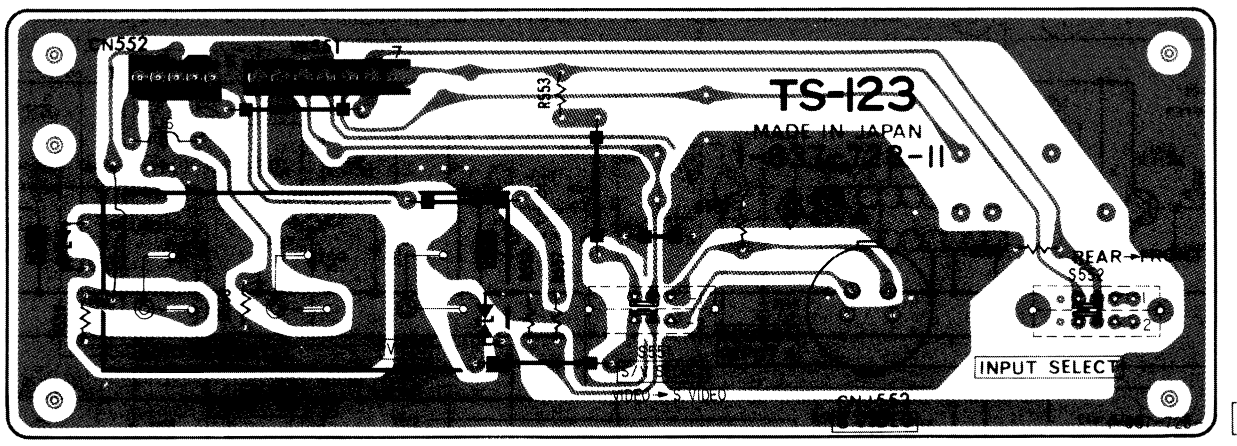

OPERATION
BYPASS
STANDBY
IC501
TS-122
MADE IN JAPAN
1-637-727-11
PHASE (EXT LOCK)
OUTPUT MODE
S501
180° —— 0°
LINE —— REC OUT
1-637-727-
11

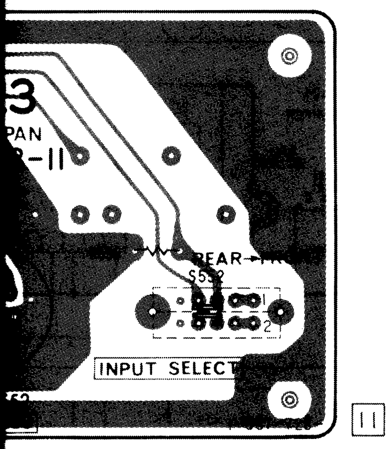
| 12 | 13 | 14 | 15 |
|---|---|---|---|

## TS-123 BOARD (FRONT INPUT)

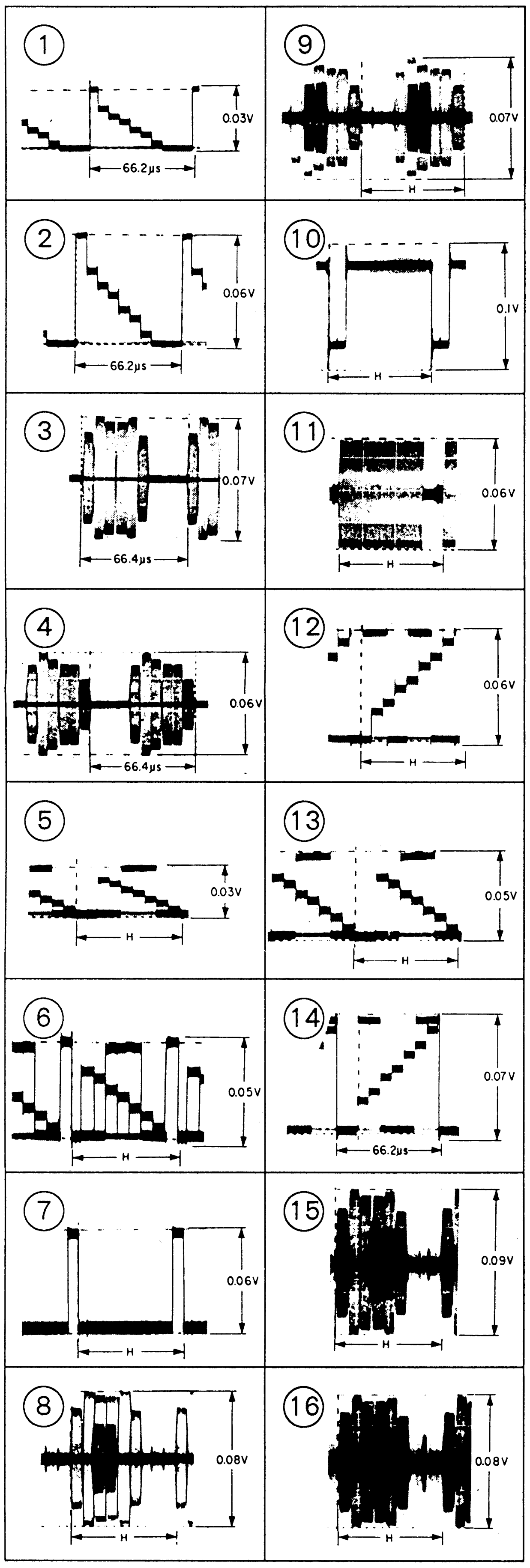

R557
100
R556
10k
FRONT
SOURCE
INPUT 4
L16
L17
R553
4700
R558
100k
R559
100k
S552
S551
CNJ552
VIDEO
R
L
AUDIO
CNJ551
R552
75
D552
RD9.1EW
D551
RD9.1EW
S VIDEO —— VIDEO
FRONT —— REAR
INPUT SELECT
R551
75
S VIDEO
S/V SELECT

TS-123 BOARD


CN552
R553
TS-123
MADE IN JAPAN
1-637-728-11
REAR —— FRONT
S552
INPUT SELECT
VIDEO —— S VIDEO
CNJ552
02


3
PAN
-11
REAR
S552
1
2
INPUT SELECT
11

## PP-10 BOARD (1/3)



- Signal path

SOURCE Signal

Y ➡
CHROMA ➡
Y/CHROMA ➡
R−Y ⇨
B−Y ⇨
SYNC ▷
HD ▷
VD ▷

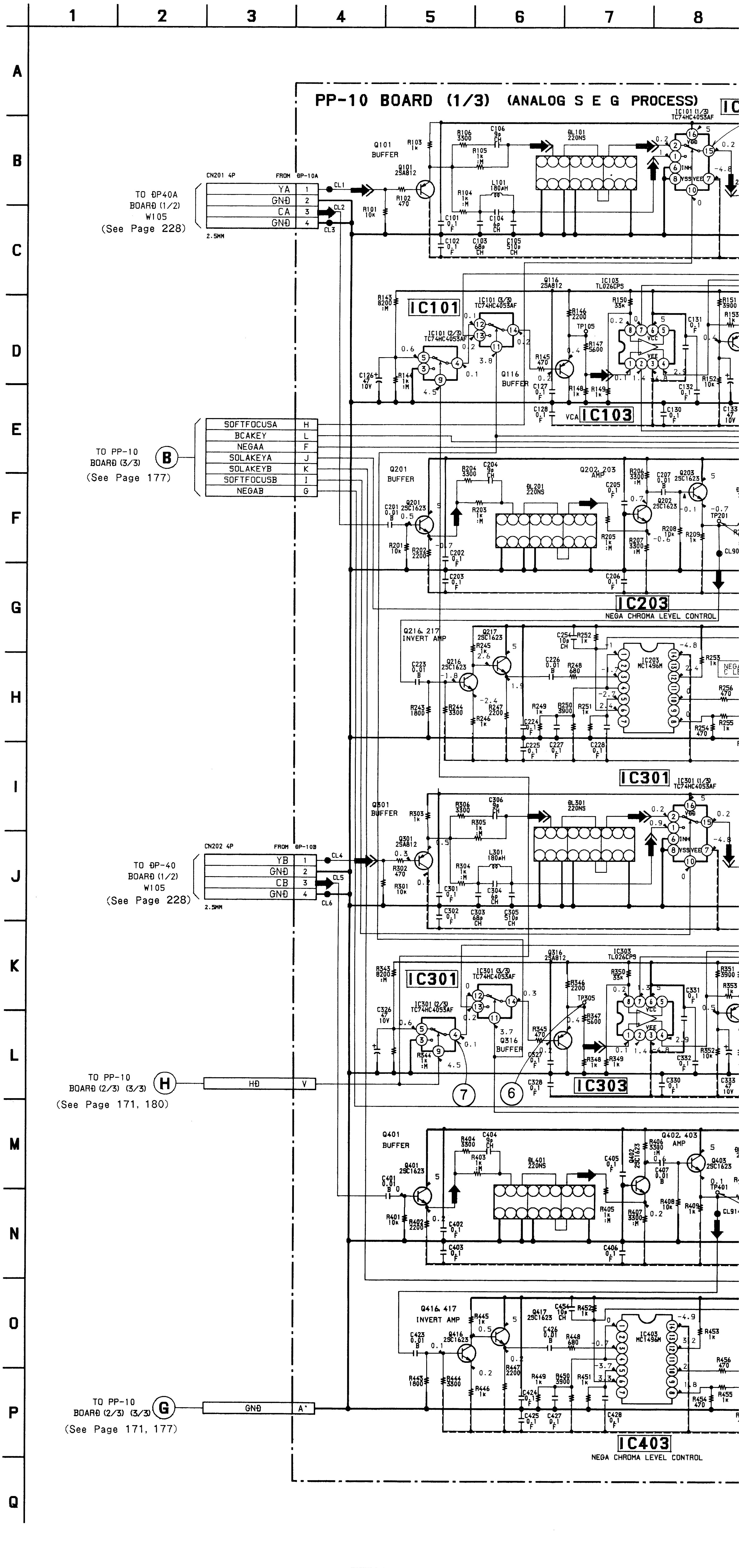
CONTROL Signal

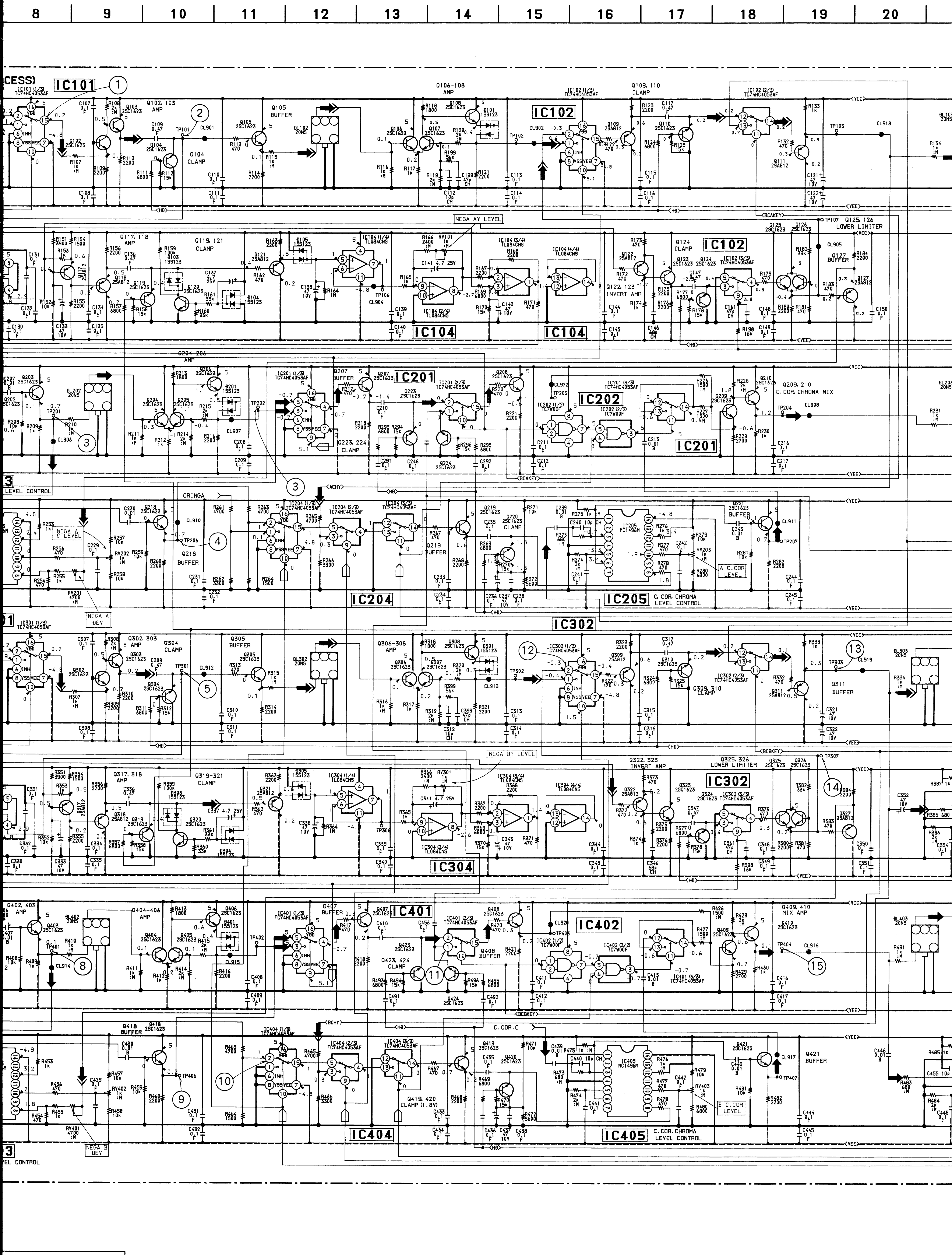
CONTROL ▷
A/D REF ▶
KEY PULSE ▶
SC ▶
CLK ▶
BEGIN ▷
INT ▶
SIRIAL IN ▶
SIRIAL OUT ▶
AUDIO Signal ⇨

When indicating parts by reference number, please include the board name.

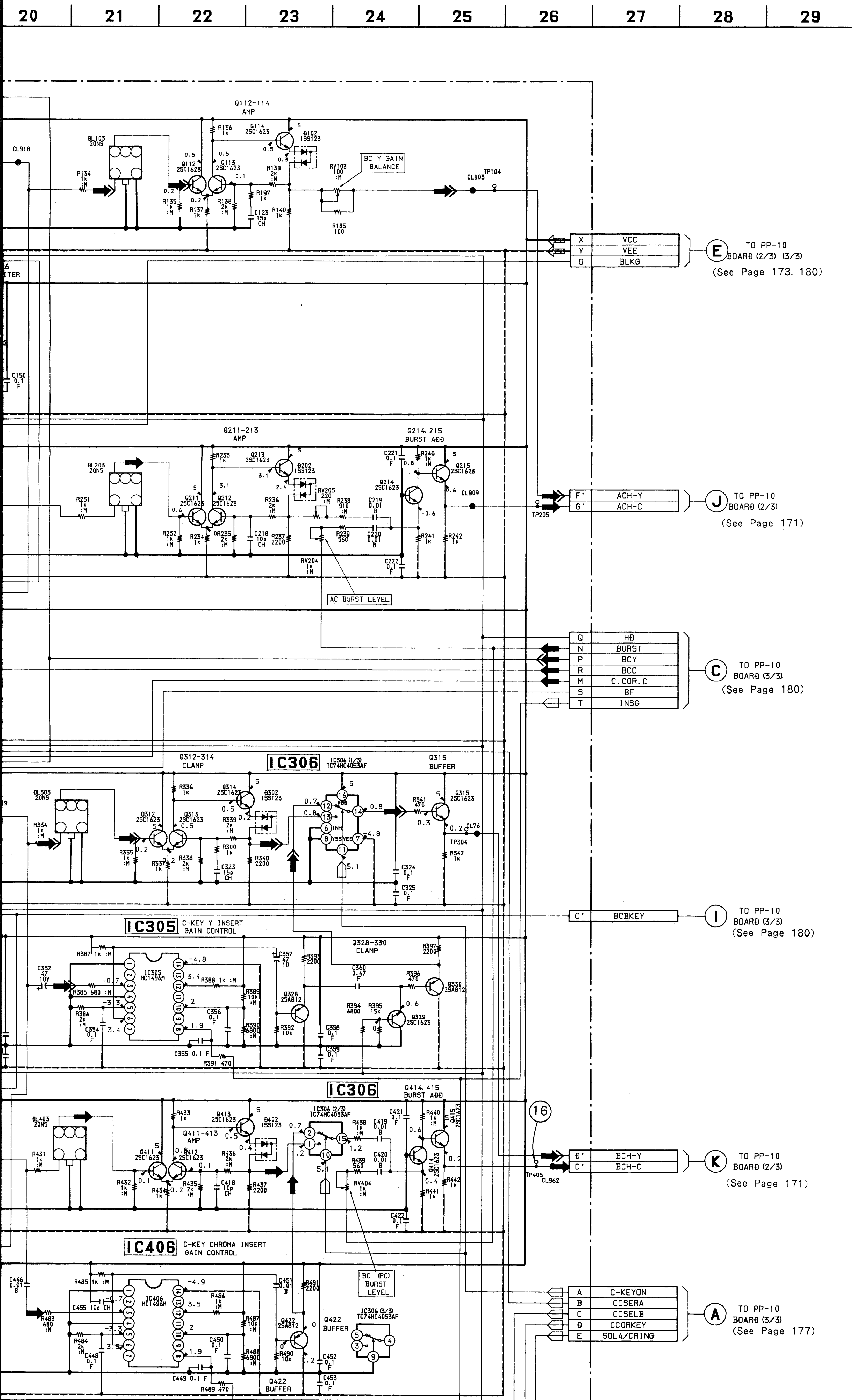
## PP-10 (1/3) (ANALOG S. E. G PROCESS) SCHEMATIC DIAGRAM

—Ref. No. PP-10 BOARD : 1,000 Series—


1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
PP-10 BOARD (1/3) (ANALOG S E G PROCESS)
CN201 4P
FROM DP-10A
YA 1
GND 2
CA 3
GND 4
TO DP40A BOARD (1/2) W105 (See Page 228)
2.5MM
CL1
CL2
CL3
Q101 BUFFER
Q101 2SA812
BL101 220NS
L101 180μH
IC101 (1/3) TC74HC4053AF
IC101
IC101 (2/3) TC74HC4053AF
IC101 (3/3) TC74HC4053AF
Q116 2SA812
Q116 BUFFER
IC103 TL026CPS
VCA IC103
TP105
SOFTFOCUSA H
BCAKEY L
NEGAA F
SOLAKEYA J
SOLAKEYB K
SOFTFOCUSB I
NEGAB G
TO PP-10 BOARD (3/3) (See Page 177)
B
Q201 BUFFER
Q201 2SC1623
BL201 220NS
Q202, 203 AMP
Q202 2SC1623
Q203 2SC1623
TP201
IC203
NEGA CHROMA LEVEL CONTROL
Q216, 217 INVERT AMP
Q216 2SC1623
Q217 2SC1623
IC203 MC1496M
IC301
IC301 (1/3) TC74HC4053AF
Q301 BUFFER
Q301 2SA812
BL301 220NS
L301 180μH
CN202 4P
FROM DP-10B
YB 1
GND 2
CB 3
GND 4
TO DP-40 BOARD (1/2) W105 (See Page 228)
CL4
CL5
CL6
IC301 (3/3) TC74HC4053AF
IC301 (2/3) TC74HC4053AF
Q316 2SA812
Q316 BUFFER
IC303 TL026CPS
TP305
IC303
TO PP-10 BOARD (2/3) (3/3) (See Page 171, 180)
H
HD V
⑦
⑥
Q401 BUFFER
Q401 2SC1623
BL401 220NS
Q402, 403 AMP
Q402 2SC1623
Q403 2SC1623
TP401
Q416, 417 INVERT AMP
Q416 2SC1623
Q417 2SC1623
IC403 MC1496M
TO PP-10 BOARD (2/3) (3/3) (See Page 171, 177)
G
GND A'
IC403
NEGA CHROMA LEVEL CONTROL


8
9
10
11
12
13
14
15
16
17
18
19
20
CESS)
IC101
IC101 (1/3) TC74HC4053AF
Q102, 103 AMP
Q104 CLAMP
Q105 BUFFER
BL102 20NS
Q106-108 AMP
IC102
IC102 (1/3) TC74HC4053AF
Q109, 110 CLAMP
IC102 (2/3) TC74HC4053AF
Q111 2SA812
Q117, 118 AMP
Q119, 121 CLAMP
IC104 (1/4) TL084CNS
NEGA AY LEVEL
IC104 (2/4) TL084CNS
IC104 (3/4) TL084CNS
IC104 (4/4) TL084CNS
IC104
Q122, 123 INVERT AMP
Q124 CLAMP
IC102 (3/3)
Q125, 126 LOWER LIMITER
Q127 BUFFER
Q204, 206 AMP
BL202 20NS
IC201
IC201 (1/3) TC74HC4053AF
Q207 BUFFER
IC201 (2/3) TC74HC4053AF
Q223, 224 CLAMP
IC202
IC202 (1/2) TC7W00F
IC202 (2/2) TC7W00F
IC201 (3/3) TC74HC4053AF
Q209, 210 C. COR. CHROMA MIX
LEVEL CONTROL
CRINGA
NEGA A C LEVEL
RV201 4700 :M
NEGA A DEV
Q218 BUFFER
IC204 (1/3) TC74HC4053AF
IC204 (2/3) TC74HC4053AF
IC204 (3/3) TC74HC4053AF
IC204
Q219 BUFFER
Q219 2SC1623
Q220 2SC1623 CLAMP
IC205 MC1496M
IC205 C. COR. CHROMA LEVEL CONTROL
A C.COR LEVEL
Q221 BUFFER
IC302
IC301 (1/3) TC74HC4053AF
Q302, 303 AMP
Q304 CLAMP
Q305 BUFFER
BL302 20NS
Q306-308 AMP
IC302 (1/3) TC74HC4053AF
Q309, 310 CLAMP
IC302 (2/3) TC74HC4053AF
Q311 BUFFER
BL303 20NS
Q317, 318 AMP
Q319-321 CLAMP
IC304 (1/4) TL084CNS
NEGA BY LEVEL
IC304 (2/4) TL084CNS
IC304 (3/4) TL084CNS
IC304 (4/4) TL084CNS
IC304
Q322, 323 INVERT AMP
Q325, 326 LOWER LIMITER
IC302 (3/3) TC74HC4053AF
Q402, 403 AMP
BL402 20NS
Q404-406 AMP
IC401 (1/3) TC74HC4053AF
Q407 BUFFER
IC401
IC401 (2/3) TC74HC4053AF
Q408 BUFFER
Q423, 424 CLAMP
IC402
IC402 (1/2) TC7W00F
IC402 (2/2) TC7W00F
IC401 (3/3) TC74HC4053AF
Q409, 410 MIX AMP
BL403 20NS
Q418 BUFFER
NEGA B DEV
RV401 4700 :M
IC404 (1/3) TC74HC4053AF
IC404 (2/3) TC74HC4053AF
IC404 (3/3) TC74HC4053AF
IC404
Q419, 420 CLAMP (1.8V)
C.COR.C
IC405 MC1496M
IC405 C.COR.CHROMA LEVEL CONTROL
B C.COR LEVEL
Q421 BUFFER
EL CONTROL
①
②
③
④
⑤
⑧
⑨
⑩
⑪
⑫
⑬
⑭
⑮

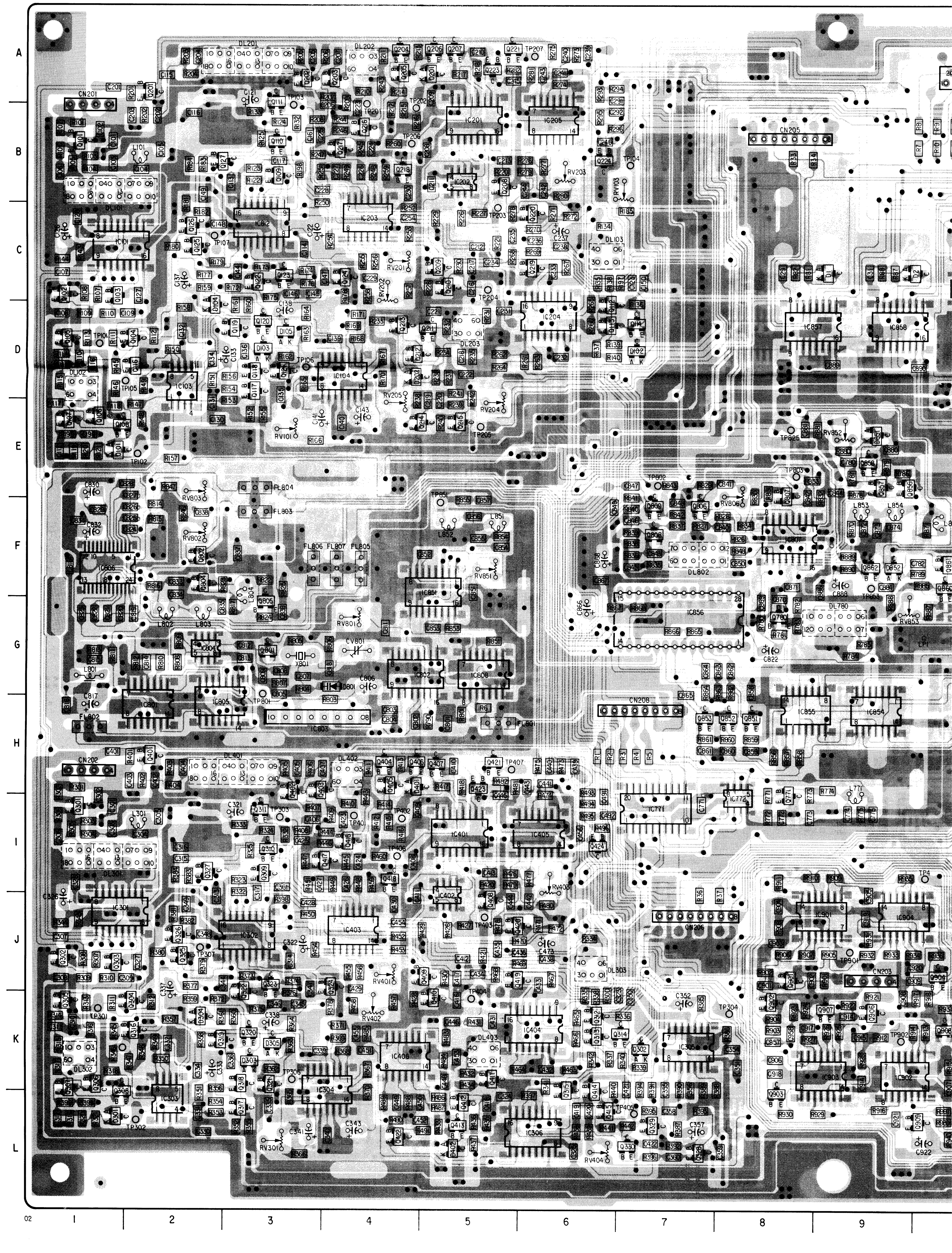
LOG S. E. G


20
21
22
23
24
25
26
27
28
29
Q112-114
AMP
Q114 2SC1623
D102 1SS123
Q112 2SC1623
Q113 2SC1623
DL103 2DNS
CL918
BC Y GAIN BALANCE
RV103 100 :M
TP104
CL903
R185 100
X VCC
Y VEE
O BLKG
E
TO PP-10 BOARD (2/3) (3/3)
(See Page 173, 180)
Q211-213
AMP
Q214, 215
BURST ADD
DL203 2DNS
Q211 2SC1623
Q212 2SC1623
Q213 2SC1623
D202 1SS123
RV205 220 :M
Q214 2SC1623
Q215 2SC1623
CL909
TP205
RV204 1k :M
AC BURST LEVEL
F' ACH-Y
G' ACH-C
J
TO PP-10 BOARD (2/3)
(See Page 171)
Q HD
N BURST
P BCY
R BCC
M C.COR.C
S BF
T INSG
C
TO PP-10 BOARD (3/3)
(See Page 180)
Q312-314
CLAMP
IC306
IC306 (1/3) TC74HC4053AF
Q315
BUFFER
DL303 2DNS
Q312 2SC1623
Q313 2SC1623
Q314 2SC1623
D302 1SS123
Q315 2SC1623
CL76
TP304
C' BCBKEY
I
TO PP-10 BOARD (3/3)
(See Page 180)
IC305
C-KEY Y INSERT GAIN CONTROL
IC305 MC1496M
Q328-330
CLAMP
Q328 2SA812
Q329 2SC1623
Q330 2SA812
IC306
Q414, 415
BURST ADD
IC306 (2/3) TC74HC4053AF
DL403 2DNS
Q411-413
AMP
Q411 2SC1623
Q412 2SC1623
Q413 2SC1623
D402 1SS123
Q414 2SC1623
Q415 2SC1623
RV404 1k :M
16
TP405
CL962
D' BCH-Y
C' BCH-C
K
TO PP-10 BOARD (2/3)
(See Page 171)
IC406
C-KEY CHROMA INSERT GAIN CONTROL
IC406 MC1496M
BC (PC) BURST LEVEL
Q422 2SA812
Q422
BUFFER
IC306 (3/3) TC74HC4053AF
A C-KEYON
B CCSERA
C CCSELB
D CCORKEY
E SOLA/CRING
A
TO PP-10 BOARD (3/3)
(See Page 177)

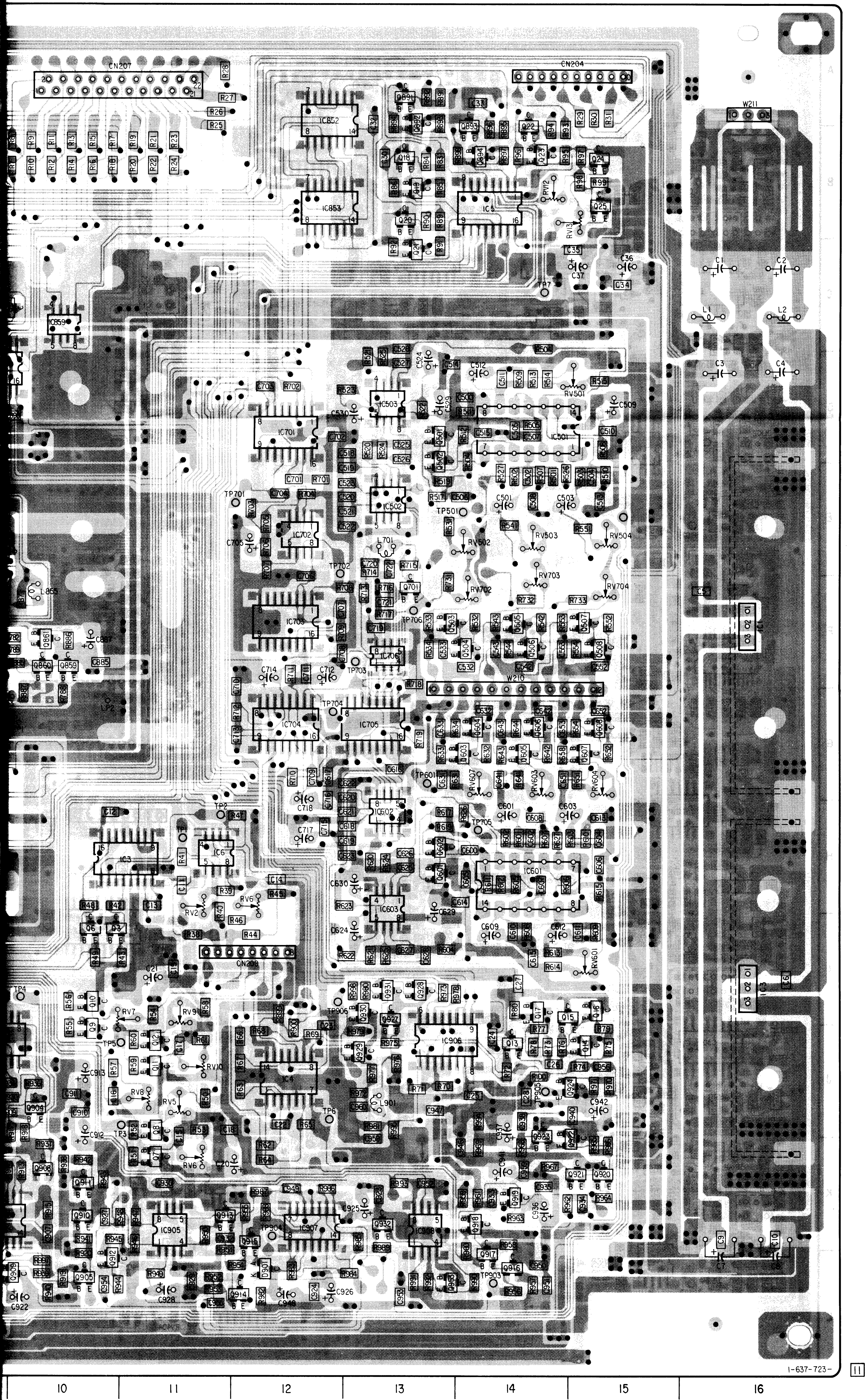
## PP-10 (ANALOG S. E. G PROCESS) PRINTED WIRING BOARD

—Ref. No. PP-10 BOARD : 1,000 Series—

PP-10 BOARD


A
B
C
D
E
F
G
H
I
J
K
L
02
1
2
3
4
5
6
7
8
9
CN201
CN202
CN205
CN206
CN208
CN203
IC101
IC104
IC201
IC205
IC202
IC203
IC204
IC301
IC302
IC303
IC304
IC305
IC306
IC401
IC402
IC403
IC404
IC405
IC406
IC771
IC772
IC801
IC802
IC803
IC804
IC805
IC806
IC807
IC808
IC851
IC854
IC855
IC856
IC857
IC858
IC901
IC902
IC903
IC904
DL101
DL102
DL103
DL201
DL202
DL203
DL301
DL302
DL303
DL401
DL402
DL403
DL780
DL802
FL802
FL803
FL804
FL805
FL806
FL807
CV801
X801
RV101
RV201
RV202
RV203
RV204
RV205
RV301
RV401
RV402
RV403
RV404
RV801
RV802
RV803
RV806
RV851
RV852
RV853
L101
L301
L771
L801
L802
L803
L804
L851
L852
L853
L854
TP102
TP105
TP106
TP107
TP201
TP202
TP203
TP204
TP205
TP206
TP207
TP301
TP302
TP303
TP304
TP305
TP307
TP401
TP403
TP404
TP405
TP406
TP407
TP801
TP802
TP803
TP825
TP851
TP853
TP901
TP902
TP4

ANALOG


CN207
CN204
CN209
W211
W210
IC852
IC853
IC5
IC859
IC701
IC702
IC703
IC704
IC705
IC706
IC501
IC502
IC503
IC601
IC602
IC603
IC3
IC6
IC4
IC905
IC906
IC907
IC908
TP7
TP701
TP702
TP703
TP704
TP501
TP601
TP705
TP706
TP2
TP3
TP4
TP5
TP6
TP903
TP904
TP905
TP906
RV501
RV502
RV503
RV504
RV601
RV602
RV603
RV604
RV607
RV701
RV702
RV703
RV704
RV2
RV5
RV6
RV7
RV8
RV9
RV10
RV13
L1
L2
L701
L855
L901
C1
C2
C3
C4
C9
C10
1-637-723-
10
11
12
13
14
15
16

11

## PP-10 BOARD

| | | | |
|---|---|---|---|
| D001 | C-9 | Q012 | J-11 |
| D002 | C-10 | Q013 | J-14 |
| D101 | E-1 | Q014 | J-15 |
| D102 | D-7 | Q015 | J-15 |
| D103 | D-3 | Q016 | I-15 |
| D104 | D-2 | Q017 | I-14 |
| D105 | D-3 | Q018 | B-13 |
| D201 | A-5 | Q019 | B-13 |
| D202 | D-4 | Q020 | C-13 |
| D301 | L-1 | Q021 | C-13 |
| D302 | K-7 | Q022 | B-14 |
| D303 | K-3 | Q023 | B-14 |
| D304 | K-2 | Q024 | B-15 |
| D305 | K-3 | Q025 | B-15 |
| D401 | H-4 | Q101 | B-1 |
| D402 | L-5 | Q102 | C-1 |
| D801 | G-4 | Q103 | C-1 |
| D851 | E-9 | Q104 | D-2 |
| D852 | F-9 | Q105 | D-1 |
| D901 | L-11 | Q106 | E-1 |
| | | Q107 | E-1 |
| IC001 | F-16 | Q108 | E-1 |
| IC002 | I-16 | Q109 | B-3 |
| IC003 | H-11 | Q110 | B-3 |
| IC004 | J-12 | Q111 | B-3 |
| IC005 | B-14 | Q112 | D-6 |
| IC006 | H-11 | Q113 | D-6 |
| IC101 | C-1 | Q114 | D-7 |
| IC103 | D-2 | Q116 | D-2 |
| IC104 | D-4 | Q117 | D-3 |
| IC201 | B-5 | Q118 | D-3 |
| IC202 | B-5 | Q119 | D-3 |
| IC203 | C-4 | Q120 | D-3 |
| IC204 | D-6 | Q121 | D-3 |
| IC205 | B-6 | Q122 | C-3 |
| IC301 | J-1 | Q123 | C-3 |
| IC302 | J-3 | Q124 | C-4 |
| IC303 | L-2 | Q125 | C-2 |
| IC304 | L-4 | Q126 | C-2 |
| IC305 | K-7 | Q127 | B-2 |
| IC306 | L-6 | Q201 | A-2 |
| IC401 | I-5 | Q202 | A-3 |
| IC402 | J-5 | Q203 | A-4 |
| IC403 | J-4 | Q204 | A-4 |
| IC404 | K-6 | Q205 | A-4 |
| IC405 | I-6 | Q206 | A-5 |
| IC406 | K-4 | Q207 | A-5 |
| IC501 | D-14 | Q208 | B-5 |
| IC502 | E-13 | Q209 | C-5 |
| IC503 | D-13 | Q210 | C-5 |
| IC601 | H-14 | Q211 | D-5 |
| IC602 | H-13 | Q212 | D-4 |
| IC603 | I-13 | Q213 | D-4 |
| IC701 | D-12 | Q214 | E-4 |
| IC702 | E-12 | Q215 | E-5 |
| IC703 | F-12 | Q216 | B-4 |
| IC704 | G-12 | Q217 | B-4 |
| IC705 | G-13 | Q218 | B-4 |
| IC706 | F-13 | Q219 | C-6 |
| IC771 | I-7 | Q220 | C-6 |
| IC772 | I-8 | Q221 | A-5 |
| IC801 | H-2 | Q223 | A-5 |
| IC802 | G-4 | Q224 | B-6 |
| IC803 | H-3 | Q301 | I-1 |
| IC804 | G-2 | Q302 | J-1 |
| IC805 | H-2 | Q303 | J-1 |
| IC806 | F-1 | Q304 | K-2 |
| IC807 | F-8 | Q305 | K-1 |
| IC808 | G-5 | Q306 | K-1 |
| IC812 | C-3 | Q307 | K-1 |
| IC851 | F-5 | Q308 | L-1 |
| IC852 | A-12 | Q309 | I-3 |
| IC853 | B-12 | Q310 | I-3 |
| IC854 | H-9 | Q311 | I-3 |
| IC855 | H-8 | Q312 | K-6 |
| IC856 | G-7 | Q313 | K-6 |
| IC857 | D-8 | Q314 | K-7 |
| IC858 | C-9 | Q315 | K-6 |
| IC859 | C-10 | Q316 | K-2 |
| IC901 | J-9 | Q317 | L-3 |
| IC902 | K-9 | Q318 | K-3 |
| IC903 | K-9 | Q319 | K-2 |
| IC904 | J-9 | Q320 | K-3 |
| IC905 | K-11 | Q321 | K-3 |
| IC906 | J-13 | Q322 | J-3 |
| IC907 | K-12 | Q323 | J-3 |
| IC908 | K-13 | Q324 | J-4 |
| | | Q325 | J-2 |
| Q003 | I-10 | Q326 | J-2 |
| Q006 | I-10 | Q327 | I-2 |
| Q007 | K-11 | Q328 | L-7 |
| Q008 | K-11 | Q329 | L-7 |
| Q009 | J-10 | Q330 | L-7 |
| Q010 | I-10 | Q401 | H-2 |
| Q011 | J-11 | Q402 | H-3 |

For printed wiring boards :

- ○— : indicates a lead wire mounted
- ●— : indicates a lead wire mounted
- ● : Through hole.
- ▨ : Pattern from the side which er
- ▨ : Pattern of the rear side.

When indicating parts by reference number, please include the board name.

## PP-10 BOARD

| | | | | | |
|---|---|---|---|---|---|
| D001 | C-9 | Q012 | J-11 | Q403 | H-3 |
| D002 | C-10 | Q013 | J-14 | Q404 | H-4 |
| D101 | E-1 | Q014 | J-15 | Q405 | H-4 |
| D102 | D-7 | Q015 | J-15 | Q406 | H-4 |
| D103 | D-3 | Q016 | I-15 | Q407 | H-5 |
| D104 | D-2 | Q017 | I-14 | Q408 | J-5 |
| D105 | D-3 | Q018 | B-13 | Q409 | J-5 |
| D201 | A-5 | Q019 | B-13 | Q410 | K-5 |
| D202 | D-4 | Q020 | C-13 | Q411 | K-5 |
| D301 | L-1 | Q021 | C-13 | Q412 | L-5 |
| D302 | K-7 | Q022 | B-14 | Q413 | L-5 |
| D303 | K-3 | Q023 | B-14 | Q414 | K-6 |
| D304 | K-2 | Q024 | B-15 | Q415 | L-6 |
| D305 | K-3 | Q025 | B-15 | Q416 | I-4 |
| D401 | H-4 | Q101 | B-1 | Q417 | I-4 |
| D402 | L-5 | Q102 | C-1 | Q418 | I-4 |
| D801 | G-4 | Q103 | C-1 | Q419 | J-6 |
| D851 | E-9 | Q104 | D-2 | Q420 | J-6 |
| D852 | F-9 | Q105 | D-1 | Q421 | H-5 |
| D901 | L-11 | Q106 | E-1 | Q422 | L-4 |
| | | Q107 | E-1 | Q423 | H-5 |
| IC001 | F-16 | Q108 | E-1 | Q424 | I-6 |
| IC002 | I-16 | Q109 | B-3 | Q501 | D-13 |
| IC003 | H-11 | Q110 | B-3 | Q502 | E-13 |
| IC004 | J-12 | Q111 | B-3 | Q503 | F-13 |
| IC005 | B-14 | Q112 | D-6 | Q504 | F-14 |
| IC006 | H-11 | Q113 | D-6 | Q505 | F-14 |
| IC101 | C-1 | Q114 | D-7 | Q506 | F-14 |
| IC103 | D-2 | Q116 | D-2 | Q507 | F-15 |
| IC104 | D-4 | Q117 | D-3 | Q508 | F-15 |
| IC201 | B-5 | Q118 | D-3 | Q601 | H-13 |
| IC202 | B-5 | Q119 | D-3 | Q602 | H-13 |
| IC203 | C-4 | Q120 | D-3 | Q603 | G-14 |
| IC204 | D-6 | Q121 | D-3 | Q604 | G-14 |
| IC205 | B-6 | Q122 | C-3 | Q605 | G-14 |
| IC301 | J-1 | Q123 | C-3 | Q606 | G-14 |
| IC302 | J-3 | Q124 | C-4 | Q607 | G-15 |
| IC303 | L-2 | Q125 | C-2 | Q608 | G-15 |
| IC304 | L-4 | Q126 | C-2 | Q701 | F-13 |
| IC305 | K-7 | Q127 | B-2 | Q771 | I-8 |
| IC306 | L-6 | Q201 | A-2 | Q780 | G-8 |
| IC401 | I-5 | Q202 | A-3 | Q801 | G-3 |
| IC402 | J-5 | Q203 | A-4 | Q802 | F-2 |
| IC403 | J-4 | Q204 | A-4 | Q804 | F-2 |
| IC404 | K-6 | Q205 | A-4 | Q805 | G-3 |
| IC405 | I-6 | Q206 | A-5 | Q806 | F-7 |
| IC406 | K-4 | Q207 | A-5 | Q807 | E-8 |
| IC501 | D-14 | Q208 | B-5 | Q808 | F-7 |
| IC502 | E-13 | Q209 | C-5 | Q809 | F-7 |
| IC503 | D-13 | Q210 | C-5 | Q851 | H-8 |
| IC601 | H-14 | Q211 | D-5 | Q852 | H-8 |
| IC602 | H-13 | Q212 | D-4 | Q853 | H-7 |
| IC603 | I-13 | Q213 | D-4 | Q856 | E-9 |
| IC701 | D-12 | Q214 | E-4 | Q857 | E-9 |
| IC702 | E-12 | Q215 | E-5 | Q858 | E-9 |
| IC703 | F-12 | Q216 | B-4 | Q859 | F-10 |
| IC704 | G-12 | Q217 | B-4 | Q860 | F-10 |
| IC705 | G-13 | Q218 | B-4 | Q861 | F-10 |
| IC706 | F-13 | Q219 | C-6 | Q862 | F-9 |
| IC771 | I-7 | Q220 | C-6 | Q891 | A-13 |
| IC772 | I-8 | Q221 | A-5 | Q892 | B-13 |
| IC801 | H-2 | Q223 | A-5 | Q893 | B-14 |
| IC802 | G-4 | Q224 | B-6 | Q894 | B-14 |
| IC803 | H-3 | Q301 | I-1 | Q901 | J-8 |
| IC804 | G-2 | Q302 | J-1 | Q902 | K-8 |
| IC805 | H-2 | Q303 | J-1 | Q903 | L-8 |
| IC806 | F-1 | Q304 | K-2 | Q904 | K-10 |
| IC807 | F-8 | Q305 | K-1 | Q905 | L-10 |
| IC808 | G-5 | Q306 | K-1 | Q906 | K-9 |
| IC812 | C-3 | Q307 | K-1 | Q907 | K-9 |
| IC851 | F-5 | Q308 | L-1 | Q908 | K-10 |
| IC852 | A-12 | Q309 | I-3 | Q909 | L-10 |
| IC853 | B-12 | Q310 | I-3 | Q910 | K-10 |
| IC854 | H-9 | Q311 | I-3 | Q911 | K-10 |
| IC855 | H-8 | Q312 | K-6 | Q912 | L-10 |
| IC856 | G-7 | Q313 | K-6 | Q913 | K-11 |
| IC857 | D-8 | Q314 | K-7 | Q914 | L-12 |
| IC858 | C-9 | Q315 | K-6 | Q915 | L-12 |
| IC859 | C-10 | Q316 | K-2 | Q916 | L-14 |
| IC901 | J-9 | Q317 | L-3 | Q917 | L-14 |
| IC902 | K-9 | Q318 | K-3 | Q918 | K-14 |
| IC903 | K-9 | Q319 | K-2 | Q919 | K-14 |
| IC904 | J-9 | Q320 | K-3 | Q920 | K-15 |
| IC905 | K-11 | Q321 | K-3 | Q921 | K-15 |
| IC906 | J-13 | Q322 | J-3 | Q922 | K-15 |
| IC907 | K-12 | Q323 | J-3 | Q923 | K-14 |
| IC908 | K-13 | Q324 | J-4 | Q924 | J;15 |
| | | Q325 | J-2 | Q927 | J-13 |
| Q003 | I-10 | Q326 | J-2 | Q928 | I-13 |
| Q006 | I-10 | Q327 | I-2 | Q929 | J-13 |
| Q007 | K-11 | Q328 | L-7 | Q930 | J-13 |
| Q008 | K-11 | Q329 | L-7 | Q931 | I-13 |
| Q009 | J-10 | Q330 | L-7 | Q932 | K-13 |
| Q010 | I-10 | Q401 | H-2 | Q953 | L-13 |
| Q011 | J-11 | Q402 | H-3 | | |

For printed wiring boards :

- ○— : indicates a lead wire mounted on the componet side.
- ●— : indicates a lead wire mounted on the printed side.
- ● : Through hole.
- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

When indicating parts by reference number, please include the board name.

< DIODE >

| | | | |
|---|---|---|---|
| D001 | 8-719-800-76 | DIODE | 1SS226 |
| D002 | 8-719-800-76 | DIODE | 1SS226 |
| D101 | 8-719-800-76 | DIODE | 1SS226 |
| D102 | 8-719-800-76 | DIODE | 1SS226 |
| D103 | 8-719-800-76 | DIODE | 1SS226 |
| D104 | 8-719-800-76 | DIODE | 1SS226 |
| D105 | 8-719-800-76 | DIODE | 1SS226 |
| D201 | 8-719-800-76 | DIODE | 1SS226 |
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| D301 | 8-719-800-76 | DIODE | 1SS226 |
| D302 | 8-719-800-76 | DIODE | 1SS226 |
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| D304 | 8-719-800-76 | DIODE | 1SS226 |
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| D401 | 8-719-800-76 | DIODE | 1SS226 |
| D402 | 8-719-800-76 | DIODE | 1SS226 |
| D801 | 8-713-300-88 | DIODE | 1T33C-01 |
| D851 | 8-719-800-76 | DIODE | 1SS226 |
| D852 | 8-719-800-76 | DIODE | 1SS226 |
| D901 | 8-719-800-76 | DIODE | 1SS226 |

< IC >

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| IC003 | 8-759-230-XX | IC | TC74HC4053AF |
| IC004 | 8-759-908-92 | IC | TL084CNS |
| IC005 | 8-759-231-93 | IC | TC74HC4051AF |
| IC006 | 8-759-100-96 | IC | uPC4558G2 |
| IC101 | 8-759-230-XX | IC | TC74HC4053AF |
| IC102 | 8-759-230-XX | IC | TC74HC4053AF |
| IC103 | 8-759-504-47 | IC | TL026CPS |
| IC104 | 8-759-908-92 | IC | TL084CNS |
| IC201 | 8-759-230-XX | IC | TC74HC4053AF |
| IC202 | 8-759-242-72 | IC | TC7W00F |
| IC203 | 8-759-030-55 | IC | MC1496M |
| IC204 | 8-759-230-XX | IC | TC74HC4053AF |
| IC205 | 8-759-030-55 | IC | MC1496M |
| IC301 | 8-759-230-XX | IC | TC74HC4053AF |
| IC302 | 8-759-230-XX | IC | TC74HC4053AF |
| IC303 | 8-759-504-47 | IC | TL026CPS |
| IC304 | 8-759-908-92 | IC | TL084CNS |
| IC305 | 8-759-030-55 | IC | MC1496M |
| IC306 | 8-759-230-XX | IC | TC74HC4053AF |
| IC401 | 8-759-230-XX | IC | TC74HC4053AF |
| IC402 | 8-759-242-72 | IC | TC7W00F |
| IC403 | 8-759-030-55 | IC | MC1496M |
| IC404 | 8-759-230-XX | IC | TC74HC4053AF |
| IC405 | 8-759-030-55 | IC | MC1496M |
| IC406 | 8-759-030-55 | IC | MC1496M |
| IC502 | 8-759-112-66 | IC | uPC812G2 |
| IC503 | 8-759-100-94 | IC | uPC358G2 |
| IC602 | 8-759-112-66 | IC | uPC812G2 |
| IC603 | 8-759-100-94 | IC | uPC358G2 |
| IC701 | 8-759-907-81 | IC | SN74LS221NS |
| IC702 | 8-759-100-93 | IC | uPC393G2 |
| IC703 | 8-759-907-81 | IC | SN74LS221NS |
| IC704 | 8-759-230-XX | IC | TC74HC4053AF |
| IC705 | 8-759-013-96 | IC | MC74HC4316F |
| IC706 | 8-759-242-74 | IC | TC7W04F |
| IC771 | 8-759-232-90 | IC | TC74HC241AF |
| IC772 | 8-759-242-74 | IC | TC7W04F |
| IC801 | 8-759-239-23 | IC | TC74HC86AF |
| IC802 | 8-759-907-81 | IC | SN74LS221NS |
| IC804 | 8-759-242-70 | IC | TC7WU04F |
| IC805 | 8-759-232-32 | IC | TC74HC74AF |
| IC806 | 8-759-603-56 | IC | M51272FP |
| IC807 | 8-759-230-XX | IC | TC74HC4053AF |
| IC808 | 8-759-239-23 | IC | TC74HC86AF |
| IC851 | 8-759-907-81 | IC | SN74LS221NS |
| IC852 | 8-759-925-74 | IC | SN74HC04NS |
| IC853 | 8-759-925-78 | IC | TC74HC10AF |
| IC854 | 8-759-032-01 | IC | TC74HC00AF |
| IC855 | 8-759-925-72 | IC | SN74HC02NS |
| IC857 | 8-759-240-80 | IC | TC74HC153AF |
| IC858 | 8-759-240-80 | IC | TC74HC153AF |
| IC859 | 8-759-242-68 | IC | TC7W32F |
| IC901 | 8-759-030-55 | IC | MC1496M |
| IC902 | 8-759-030-55 | IC | MC1496M |
| IC903 | 8-759-030-55 | IC | MC1496M |
| IC904 | 8-759-030-55 | IC | MC1496M |
| IC905 | 8-759-504-47 | IC | TL026CPS |
| IC906 | 8-759-230-XX | IC | TC74HC4053AF |
| IC907 | 8-759-100-95 | IC | uPC324G2 |
| IC908 | 8-759-980-44 | IC | TL712CPS |

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| Q007 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
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| Q010 | 8-729-216-22 | TRANSISTOR | 2SA1162 |
| Q011 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q012 | 8-729-216-22 | TRANSISTOR | 2SA1162 |
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| Q016 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
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| Q021 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
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| Q023 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
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| Q930 | 8-729-216-22 | TRANSISTOR | 2SA1162 |
| Q931 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q932 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
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< DIODE >

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| D101 | 8-719-800-76 | DIODE | 1SS226 |
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| D201 | 8-719-800-76 | DIODE | 1SS226 |
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| D402 | 8-719-800-76 | DIODE | 1SS226 |
| D801 | 8-713-300-88 | DIODE | 1T33C-01 |
| D851 | 8-719-800-76 | DIODE | 1SS226 |
| D852 | 8-719-800-76 | DIODE | 1SS226 |
| D901 | 8-719-800-76 | DIODE | 1SS226 |

< IC >

| | | | |
|---|---|---|---|
| IC003 | 8-759-230-XX | IC | TC74HC4053AF |
| IC004 | 8-759-908-92 | IC | TL084CNS |
| IC005 | 8-759-231-93 | IC | TC74HC4051AF |
| IC006 | 8-759-100-96 | IC | uPC4558G2 |
| IC101 | 8-759-230-XX | IC | TC74HC4053AF |
| IC102 | 8-759-230-XX | IC | TC74HC4053AF |
| IC103 | 8-759-504-47 | IC | TL026CPS |
| IC104 | 8-759-908-92 | IC | TL084CNS |
| IC201 | 8-759-230-XX | IC | TC74HC4053AF |
| IC202 | 8-759-242-72 | IC | TC7W00F |
| IC203 | 8-759-030-55 | IC | MC1496M |
| IC204 | 8-759-230-XX | IC | TC74HC4053AF |
| IC205 | 8-759-030-55 | IC | MC1496M |
| IC301 | 8-759-230-XX | IC | TC74HC4053AF |
| IC302 | 8-759-230-XX | IC | TC74HC4053AF |
| IC303 | 8-759-504-47 | IC | TL026CPS |
| IC304 | 8-759-908-92 | IC | TL084CNS |
| IC305 | 8-759-030-55 | IC | MC1496M |
| IC306 | 8-759-230-XX | IC | TC74HC4053AF |
| IC401 | 8-759-230-XX | IC | TC74HC4053AF |
| IC402 | 8-759-242-72 | IC | TC7W00F |
| IC403 | 8-759-030-55 | IC | MC1496M |
| IC404 | 8-759-230-XX | IC | TC74HC4053AF |
| IC405 | 8-759-030-55 | IC | MC1496M |
| IC406 | 8-759-030-55 | IC | MC1496M |
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| IC503 | 8-759-100-94 | IC | uPC358G2 |
| IC602 | 8-759-112-66 | IC | uPC812G2 |
| IC603 | 8-759-100-94 | IC | uPC358G2 |
| IC701 | 8-759-907-81 | IC | SN74LS221NS |
| IC702 | 8-759-100-93 | IC | uPC393G2 |
| IC703 | 8-759-907-81 | IC | SN74LS221NS |
| IC704 | 8-759-230-XX | IC | TC74HC4053AF |
| IC705 | 8-759-013-96 | IC | MC74HC4316F |
| IC706 | 8-759-242-74 | IC | TC7W04F |
| IC771 | 8-759-232-90 | IC | TC74HC241AF |
| IC772 | 8-759-242-74 | IC | TC7W04F |
| IC801 | 8-759-239-23 | IC | TC74HC86AF |
| IC802 | 8-759-907-81 | IC | SN74LS221NS |
| IC804 | 8-759-242-70 | IC | TC7WU04F |
| IC805 | 8-759-232-32 | IC | TC74HC74AF |
| IC806 | 8-759-603-56 | IC | M51272FP |
| IC807 | 8-759-230-XX | IC | TC74HC4053AF |
| IC808 | 8-759-239-23 | IC | TC74HC86AF |
| IC851 | 8-759-907-81 | IC | SN74LS221NS |
| IC852 | 8-759-925-74 | IC | SN74HC04NS |
| IC853 | 8-759-925-78 | IC | TC74HC10AF |
| IC854 | 8-759-032-01 | IC | TC74HC00AF |
| IC855 | 8-759-925-72 | IC | SN74HC02NS |
| IC857 | 8-759-240-80 | IC | TC74HC153AF |
| IC858 | 8-759-240-80 | IC | TC74HC153AF |
| IC859 | 8-759-242-68 | IC | TC7W32F |
| IC901 | 8-759-030-55 | IC | MC1496M |
| IC902 | 8-759-030-55 | IC | MC1496M |
| IC903 | 8-759-030-55 | IC | MC1496M |
| IC904 | 8-759-030-55 | IC | MC1496M |
| IC905 | 8-759-504-47 | IC | TL026CPS |
| IC906 | 8-759-230-XX | IC | TC74HC4053AF |
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| IC908 | 8-759-980-44 | IC | TL712CPS |

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## PP-10 BOARD

| | | | | | |
|---|---|---|---|---|---|
| D001 | C-9 | Q012 | J-11 | Q403 | H-3 |
| D002 | C-10 | Q013 | J-14 | Q404 | H-4 |
| D101 | E-1 | Q014 | J-15 | Q405 | H-4 |
| D102 | D-7 | Q015 | J-15 | Q406 | H-4 |
| D103 | D-3 | Q016 | I-15 | Q407 | H-5 |
| D104 | D-2 | Q017 | I-14 | Q408 | J-5 |
| D105 | D-3 | Q018 | B-13 | Q409 | J-5 |
| D201 | A-5 | Q019 | B-13 | Q410 | K-5 |
| D202 | D-4 | Q020 | C-13 | Q411 | K-5 |
| D301 | L-1 | Q021 | C-13 | Q412 | L-5 |
| D302 | K-7 | Q022 | B-14 | Q413 | L-5 |
| D303 | K-3 | Q023 | B-14 | Q414 | K-6 |
| D304 | K-2 | Q024 | B-15 | Q415 | L-6 |
| D305 | K-3 | Q025 | B-15 | Q416 | I-4 |
| D401 | H-4 | Q101 | B-1 | Q417 | I-4 |
| D402 | L-5 | Q102 | C-1 | Q418 | I-4 |
| D801 | G-4 | Q103 | C-1 | Q419 | J-6 |
| D851 | E-9 | Q104 | D-2 | Q420 | J-6 |
| D852 | F-9 | Q105 | D-1 | Q421 | H-5 |
| D901 | L-11 | Q106 | E-1 | Q422 | L-4 |
| | | Q107 | E-1 | Q423 | H-5 |
| IC001 | F-16 | Q108 | E-1 | Q424 | I-6 |
| IC002 | I-16 | Q109 | B-3 | Q501 | D-13 |
| IC003 | H-11 | Q110 | B-3 | Q502 | E-13 |
| IC004 | J-12 | Q111 | B-3 | Q503 | F-13 |
| IC005 | B-14 | Q112 | D-6 | Q504 | F-14 |
| IC006 | H-11 | Q113 | D-6 | Q505 | F-14 |
| IC101 | C-1 | Q114 | D-7 | Q506 | F-14 |
| IC103 | D-2 | Q116 | D-2 | Q507 | F-15 |
| IC104 | D-4 | Q117 | D-3 | Q508 | F-15 |
| IC201 | B-5 | Q118 | D-3 | Q601 | H-13 |
| IC202 | B-5 | Q119 | D-3 | Q602 | H-13 |
| IC203 | C-4 | Q120 | D-3 | Q603 | G-14 |
| IC204 | D-6 | Q121 | D-3 | Q604 | G-14 |
| IC205 | B-6 | Q122 | C-3 | Q605 | G-14 |
| IC301 | J-1 | Q123 | C-3 | Q606 | G-14 |
| IC302 | J-3 | Q124 | C-4 | Q607 | G-15 |
| IC303 | L-2 | Q125 | C-2 | Q608 | G-15 |
| IC304 | L-4 | Q126 | C-2 | Q701 | F-13 |
| IC305 | K-7 | Q127 | B-2 | Q771 | I-8 |
| IC306 | L-6 | Q201 | A-2 | Q780 | G-8 |
| IC401 | I-5 | Q202 | A-3 | Q801 | G-3 |
| IC402 | J-5 | Q203 | A-4 | Q802 | F-2 |
| IC403 | J-4 | Q204 | A-4 | Q804 | F-2 |
| IC404 | K-6 | Q205 | A-4 | Q805 | G-3 |
| IC405 | I-6 | Q206 | A-5 | Q806 | F-7 |
| IC406 | K-4 | Q207 | A-5 | Q807 | E-8 |
| IC501 | D-14 | Q208 | B-5 | Q808 | F-7 |
| IC502 | E-13 | Q209 | C-5 | Q809 | F-7 |
| IC503 | D-13 | Q210 | C-5 | Q851 | H-8 |
| IC601 | H-14 | Q211 | D-5 | Q852 | H-8 |
| IC602 | H-13 | Q212 | D-4 | Q853 | H-7 |
| IC603 | I-13 | Q213 | D-4 | Q856 | E-9 |
| IC701 | D-12 | Q214 | E-4 | Q857 | E-9 |
| IC702 | E-12 | Q215 | E-5 | Q858 | E-9 |
| IC703 | F-12 | Q216 | B-4 | Q859 | F-10 |
| IC704 | G-12 | Q217 | B-4 | Q860 | F-10 |
| IC705 | G-13 | Q218 | B-4 | Q861 | F-10 |
| IC706 | F-13 | Q219 | C-6 | Q862 | F-9 |
| IC771 | I-7 | Q220 | C-6 | Q891 | A-13 |
| IC772 | I-8 | Q221 | A-5 | Q892 | B-13 |
| IC801 | H-2 | Q223 | A-5 | Q893 | B-14 |
| IC802 | G-4 | Q224 | B-6 | Q894 | B-14 |
| IC803 | H-3 | Q301 | I-1 | Q901 | J-8 |
| IC804 | G-2 | Q302 | J-1 | Q902 | K-8 |
| IC805 | H-2 | Q303 | J-1 | Q903 | L-8 |
| IC806 | F-1 | Q304 | K-2 | Q904 | K-10 |
| IC807 | F-8 | Q305 | K-1 | Q905 | L-10 |
| IC808 | G-5 | Q306 | K-1 | Q906 | K-9 |
| IC812 | C-3 | Q307 | K-1 | Q907 | K-9 |
| IC851 | F-5 | Q308 | L-1 | Q908 | K-10 |
| IC852 | A-12 | Q309 | I-3 | Q909 | L-10 |
| IC853 | B-12 | Q310 | I-3 | Q910 | K-10 |
| IC854 | H-9 | Q311 | I-3 | Q911 | K-10 |
| IC855 | H-8 | Q312 | K-6 | Q912 | L-10 |
| IC856 | G-7 | Q313 | K-6 | Q913 | K-11 |
| IC857 | D-8 | Q314 | K-7 | Q914 | L-12 |
| IC858 | C-9 | Q315 | K-6 | Q915 | L-12 |
| IC859 | C-10 | Q316 | K-2 | Q916 | L-14 |
| IC901 | J-9 | Q317 | L-3 | Q917 | L-14 |
| IC902 | K-9 | Q318 | K-3 | Q918 | K-14 |
| IC903 | K-9 | Q319 | K-2 | Q919 | K-14 |
| IC904 | J-9 | Q320 | K-3 | Q920 | K-15 |
| IC905 | K-11 | Q321 | K-3 | Q921 | K-15 |
| IC906 | J-13 | Q322 | J-3 | Q922 | K-15 |
| IC907 | K-12 | Q323 | J-3 | Q923 | K-14 |
| IC908 | K-13 | Q324 | J-4 | Q924 | J ; 15 |
| | | Q325 | J-2 | Q927 | J-13 |
| Q003 | I-10 | Q326 | J-2 | Q928 | I-13 |
| Q006 | I-10 | Q327 | I-2 | Q929 | J-13 |
| Q007 | K-11 | Q328 | L-7 | Q930 | J-13 |
| Q008 | K-11 | Q329 | L-7 | Q931 | I-13 |
| Q009 | J-10 | Q330 | L-7 | Q932 | K-13 |
| Q010 | I-10 | Q401 | H-2 | Q953 | L-13 |
| Q011 | J-11 | Q402 | H-3 | | |

For printed wiring boards :

- ○— : indicates a lead wire mounted on the componet
- ●— : indicates a lead wire mounted on the printed sid
- ● : Through hole.
- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

When indicating parts by reference number, please include the board name.

## PP-10 (ANALOG S. E. G PROCESS) PRINTED WIRING BOARD

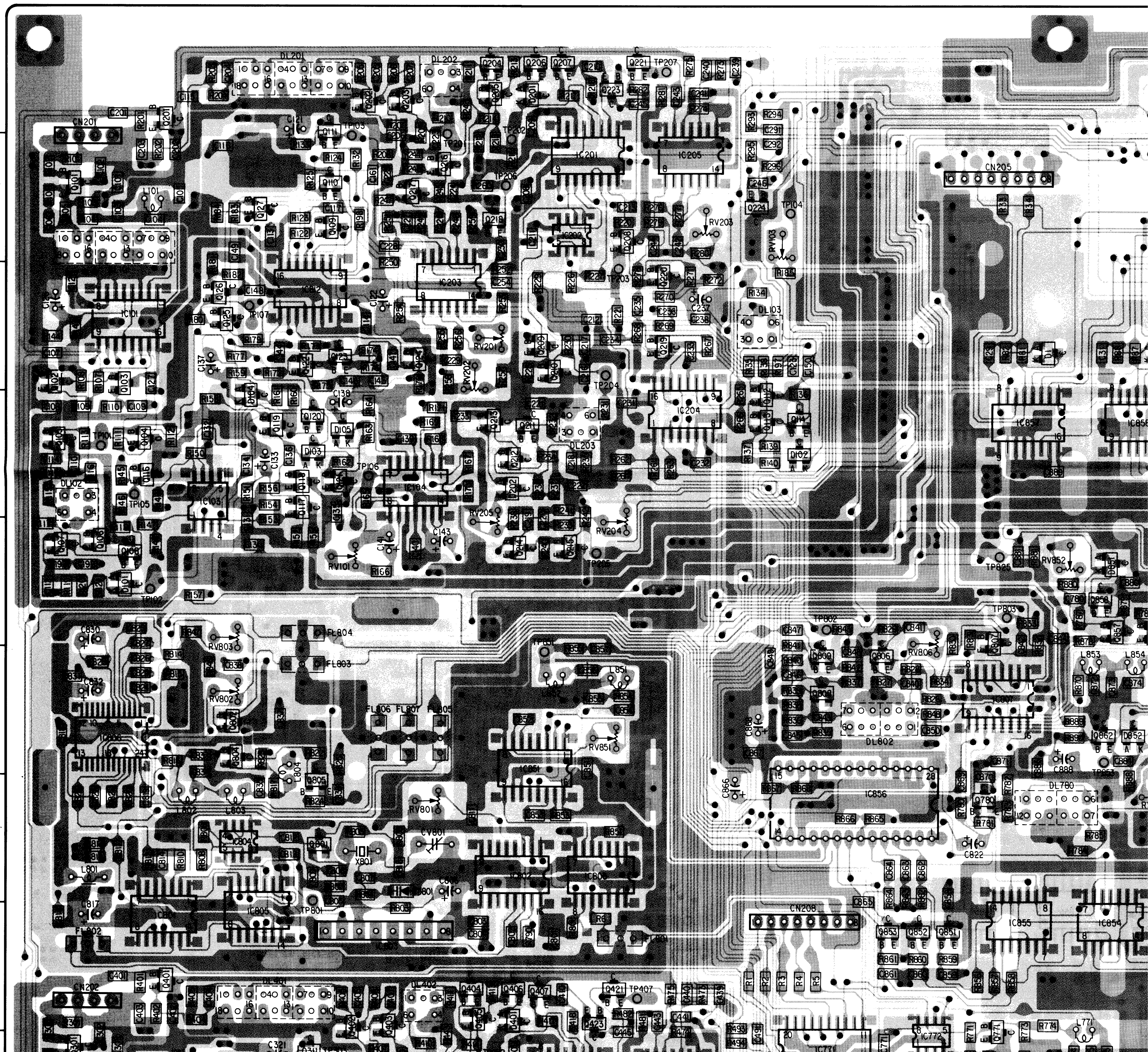
—Ref. No. PP-10 BOARD : 1,000 Series—

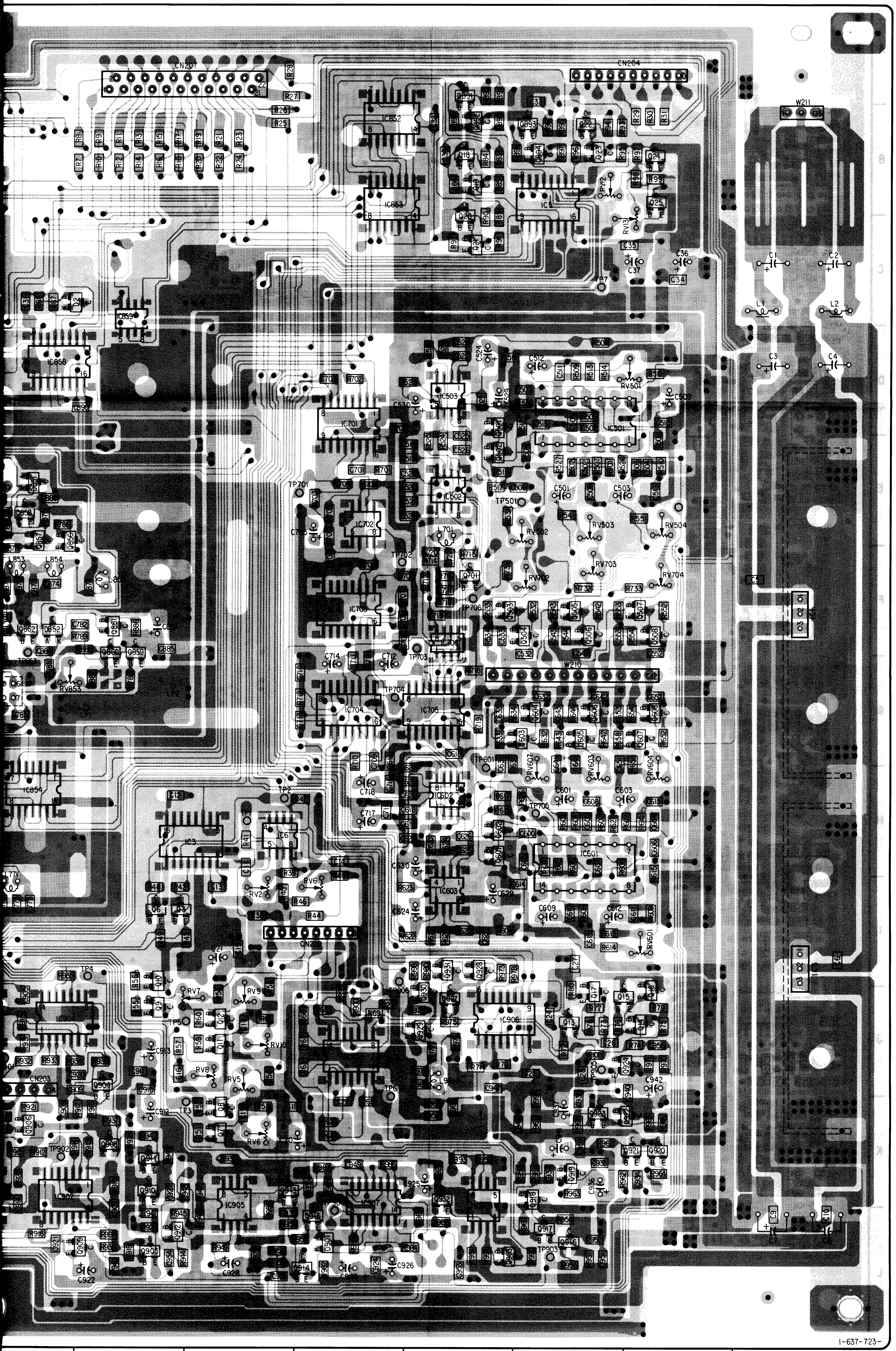
H-3
H-4
H-4
H-4
H-5
J-5
J-5
K-5
K-5
L-5
L-5
K-6
L-6
I-4
I-4
I-4
J-6
J-6
H-5
L-4
H-5
I-6
D-13
E-13
F-13
F-14
F-14
F-14
F-15
F-15
H-13
H-13
G-14
G-14
G-14
G-14
G-15
G-15
F-13
I-8
G-8
G-3
F-2
F-2
G-3
F-7
E-8
F-7
F-7
H-8
H-8
H-7
E-9
E-9
E-9
F-10
F-10
F-10
F-9
A-13
B-13
B-14
B-14
J-8
K-8
L-8
K-10
L-10
K-9
K-9
K-10
L-10
K-10
K-10
L-10
K-11
L-12
L-12
L-14
L-14
K-14
K-14
K-15
K-15
K-15
K-14
J ; 15
J-13
I-13
J-13
J-13
I-13
K-13
L-13

omponet side.
rinted side.

eing.

PP-10 BOARD




1-637-723-
11
9
10
11
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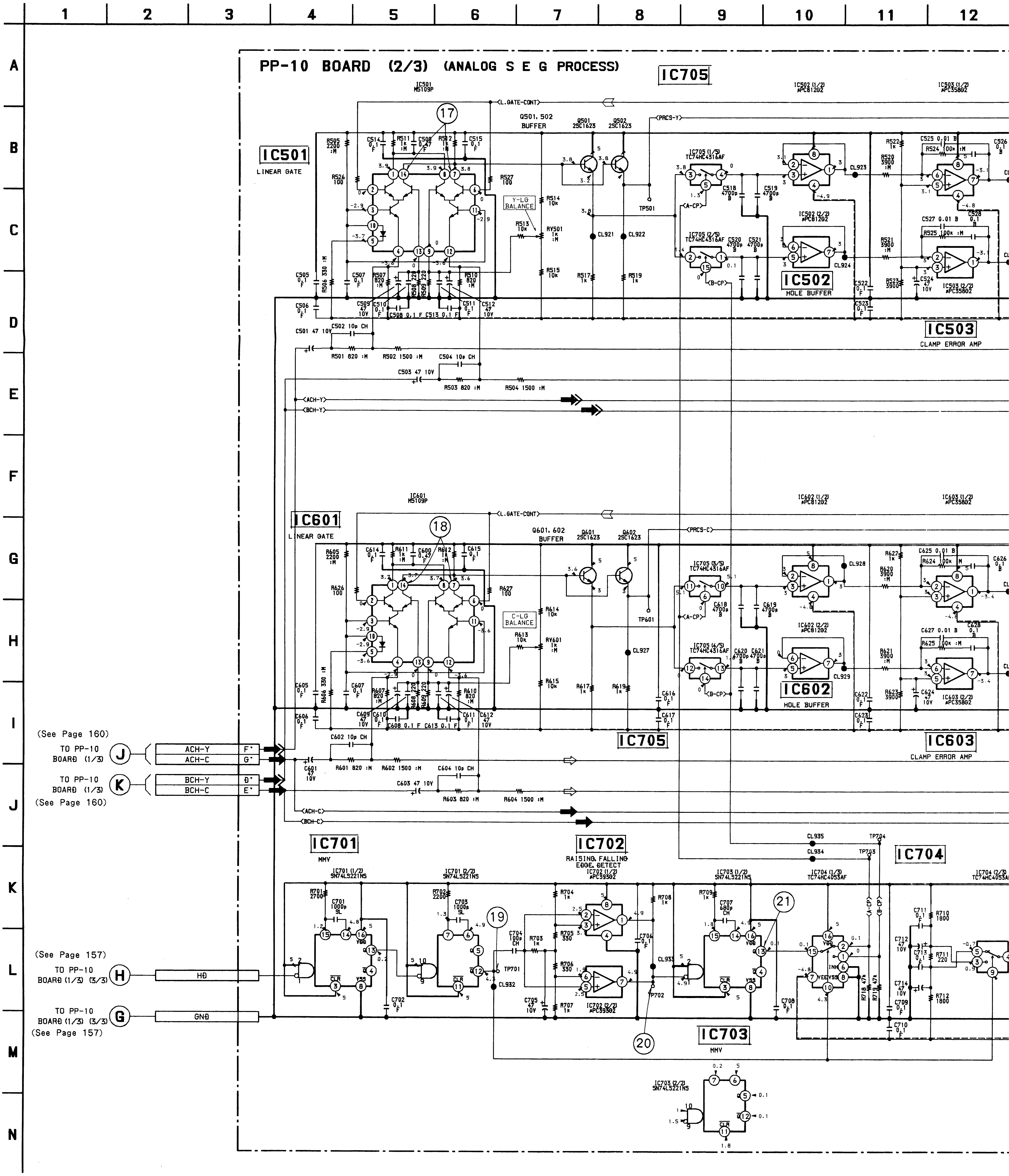
14
15
16

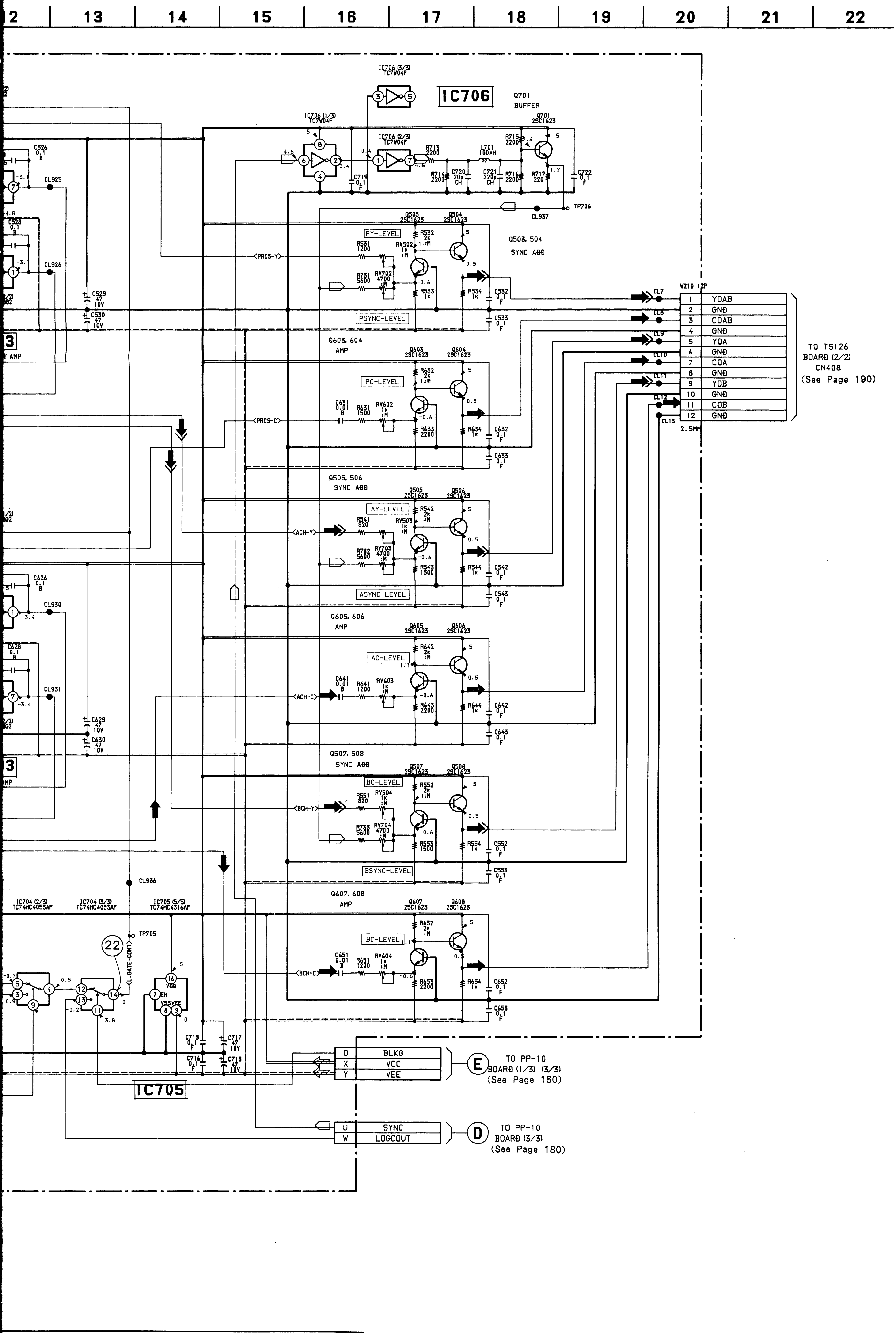
ANALOG S. E. G ANALOG S. E. G

## PP-10 (2/3) (ANALOG S. E. G PROCESS) SCHEMATIC DIAGRAM

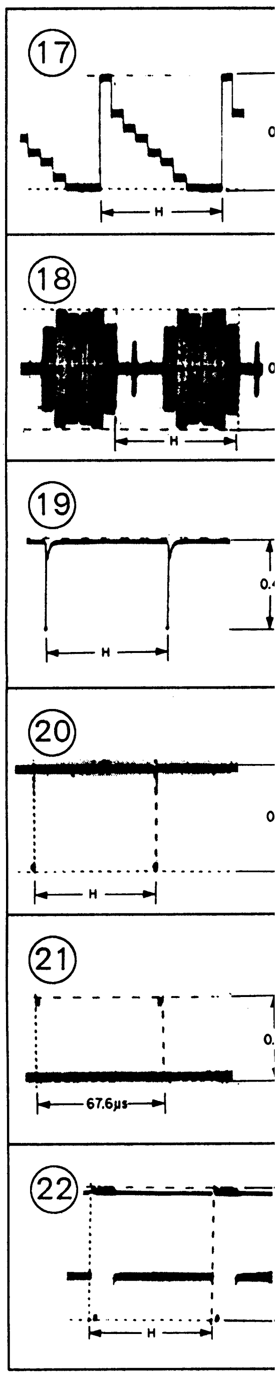
—Ref. No. PP-10 BOARD : 1,000 Series—



PP-10 BOARD (2/3) (ANALOG S E G PROCESS)
IC501
LINEAR GATE
IC501 M5109P
Q501, 502 BUFFER
Q501 2SC1623
Q502 2SC1623
Y-LG BALANCE
RV501
IC705
IC705 (1/5) TC74HC4316AF
IC705 (2/5) TC74HC4316AF
IC502 (1/2) μPC812G2
IC502 (2/2) μPC812G2
IC502
HOLE BUFFER
IC503 (1/2) μPC358G2
IC503 (2/2) μPC358G2
IC503
CLAMP ERROR AMP
L.GATE-CONT
PRCS-Y
A-CP
B-CP
TP501
ACH-Y
BCH-Y
IC601
LINEAR GATE
IC601 M5109P
Q601, 602 BUFFER
Q601 2SC1623
Q602 2SC1623
C-LG BALANCE
RV601
PRCS-C
IC705 (3/5) TC74HC4316AF
IC705 (4/5) TC74HC4316AF
IC602 (1/2) μPC812G2
IC602 (2/2) μPC812G2
IC602
HOLE BUFFER
IC603 (1/2) μPC358G2
IC603 (2/2) μPC358G2
IC603
CLAMP ERROR AMP
TP601
ACH-C
BCH-C
(See Page 160)
TO PP-10 BOARD (1/3)
J
ACH-Y F'
ACH-C G'
TO PP-10 BOARD (1/3)
K
BCH-Y D'
BCH-C E'
(See Page 160)
IC701
MMV
IC701 (1/2) SN74LS221NS
IC701 (2/2) SN74LS221NS
IC702
RAISING, FALLING EDGE DETECT
IC702 (1/2) μPC393G2
IC702 (2/2) μPC393G2
IC703 (1/2) SN74LS221NS
IC703
MMV
IC703 (2/2) SN74LS221NS
IC704
IC704 (1/3) TC74HC4053AF
IC704 (2/3) TC74HC4053AF
TP701
TP702
TP703
TP704
CL935
CL934
(See Page 157)
TO PP-10 BOARD (1/3) (3/3)
H
HD
TO PP-10 BOARD (1/3) (3/3)
G
GND
(See Page 157)
⑰
⑱
⑲
⑳
㉑
1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H
I
J
K
L
M
N


12
13
14
15
16
17
18
19
20
21
22
IC706
IC706 (3/3) TC7W04F
IC706 (1/3) TC7W04F
IC706 (2/3) TC7W04F
Q701 BUFFER
Q701 2SC1623
R713 2200
L701 100μH
R715 2200
R714 2200
C720 20p CH
C721 220p CH
R716 2200
R717 220
C722 0.1 F
C719 0.1 F
TP706
CL937
C526 0.1 B
CL925
C528 0.1 B
CL926
C529 47 10V
C530 47 10V
Q503 2SC1623
Q504 2SC1623
Q503, 504 SYNC ADD
PY-LEVEL
R532 2k 1:M
R531 1200
RV502 1k :M
R731 5600
RV702 4700 :M
R533 1k
R534 1k
C532 0.1 F
C533 0.1 F
PSYNC-LEVEL
<PRCS-Y>
Q603, 604 AMP
Q603 2SC1623
Q604 2SC1623
PC-LEVEL
R632 2k 1:M
C631 0.01 B
R631 1500
RV602 1k :M
R633 2200
R634 1k
C632 0.1 F
C633 0.1 F
<PRCS-C>
Q505, 506 SYNC ADD
Q505 2SC1623
Q506 2SC1623
AY-LEVEL
R542 2k 1:M
R541 820
RV503 1k :M
R732 5600
RV703 4700 :M
R543 1500
R544 1k
C542 0.1 F
C543 0.1 F
ASYNC LEVEL
<ACH-Y>
Q605, 606 AMP
Q605 2SC1623
Q606 2SC1623
AC-LEVEL
R642 2k :M
C641 0.01 B
R641 1200
RV603 1k :M
R643 2200
R644 1k
C642 0.1 F
C643 0.1 F
<ACH-C>
Q507, 508 SYNC ADD
Q507 2SC1623
Q508 2SC1623
BC-LEVEL
R552 2k 1:M
R551 820
RV504 1k :M
R733 5600
RV704 4700 :M
R553 1500
R554 1k
C552 0.1 F
C553 0.1 F
BSYNC-LEVEL
<BCH-Y>
Q607, 608 AMP
Q607 2SC1623
Q608 2SC1623
BC-LEVEL
R652 2k :M
C651 0.01 B
R651 1200
RV604 1k :M
R653 2200
R654 1k
C652 0.1 F
C653 0.1 F
<BCH-C>
W210 12P
CL7
CL8
CL9
CL10
CL11
CL12
CL13
2.5MM
1 YOAB
2 GND
3 COAB
4 GND
5 YOA
6 GND
7 COA
8 GND
9 YOB
10 GND
11 COB
12 GND
TO TS126 BOARD (2/2) CN408 (See Page 190)
C626 0.1 B
CL930
C628 0.1 B
CL931
C629 47 10V
C630 47 10V
CL936
IC704 (2/3) TC74HC4053AF
IC704 (3/3) TC74HC4053AF
IC705 (5/5) TC74HC4316AF
TP705
22
(L.GATE-CONT)
VDD
VSS VEE
EN
C715 0.1 F
C716 0.1 F
C717 47 10V
C718 47 10V
IC705
O BLKG
X VCC
Y VEE
E
TO PP-10 BOARD (1/3) (3/3) (See Page 160)
U SYNC
W LOGCOUT
D
TO PP-10 BOARD (3/3) (See Page 180)

## PP-10 BOARD (2



• Signal path

SOURCE Signal

| | |
|---|---|
| Y | ➡ |
| CHROMA | ➡ |
| Y/CHROMA | ⮆ |
| R−Y | ⇨ |
| B−Y | ⇨ |
| SYNC | ▷ |
| HD | ⇨ |
| VD | ⇨ |

CONTROL Signal

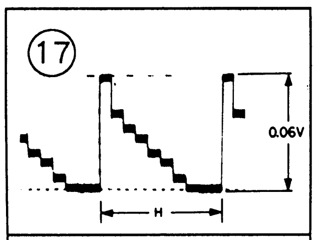
| | |
|---|---|
| CONTROL | ▷ |
| A/D REF | ➤ |
| KEY PULSE | ➤ |
| SC | ➤ |
| CLK | ➤ |
| BEGIN | ▷ |
| INT | ➤ |
| SIRIAL IN | ➤ |
| SIRIAL OUT | ➤ |
| AUDIO Signal | ⇨ |

When indicating parts by
ence number, please
the board name.

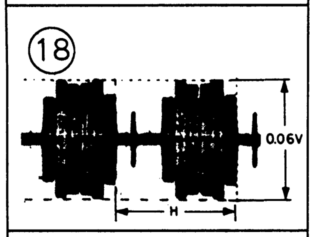
2

## PP-10 BOARD (2/3)

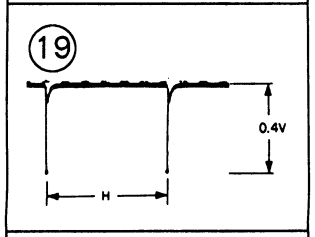
⑰



⑱

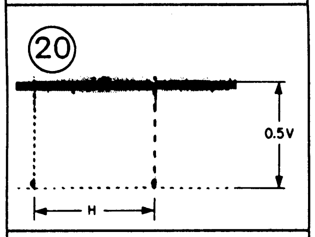


⑲

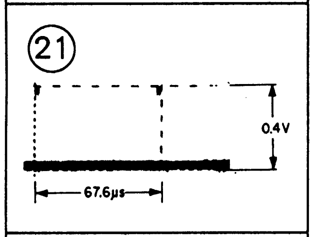


190)

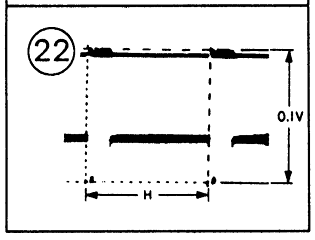
⑳



㉑



㉒



- Signal path

SOURCE Signal

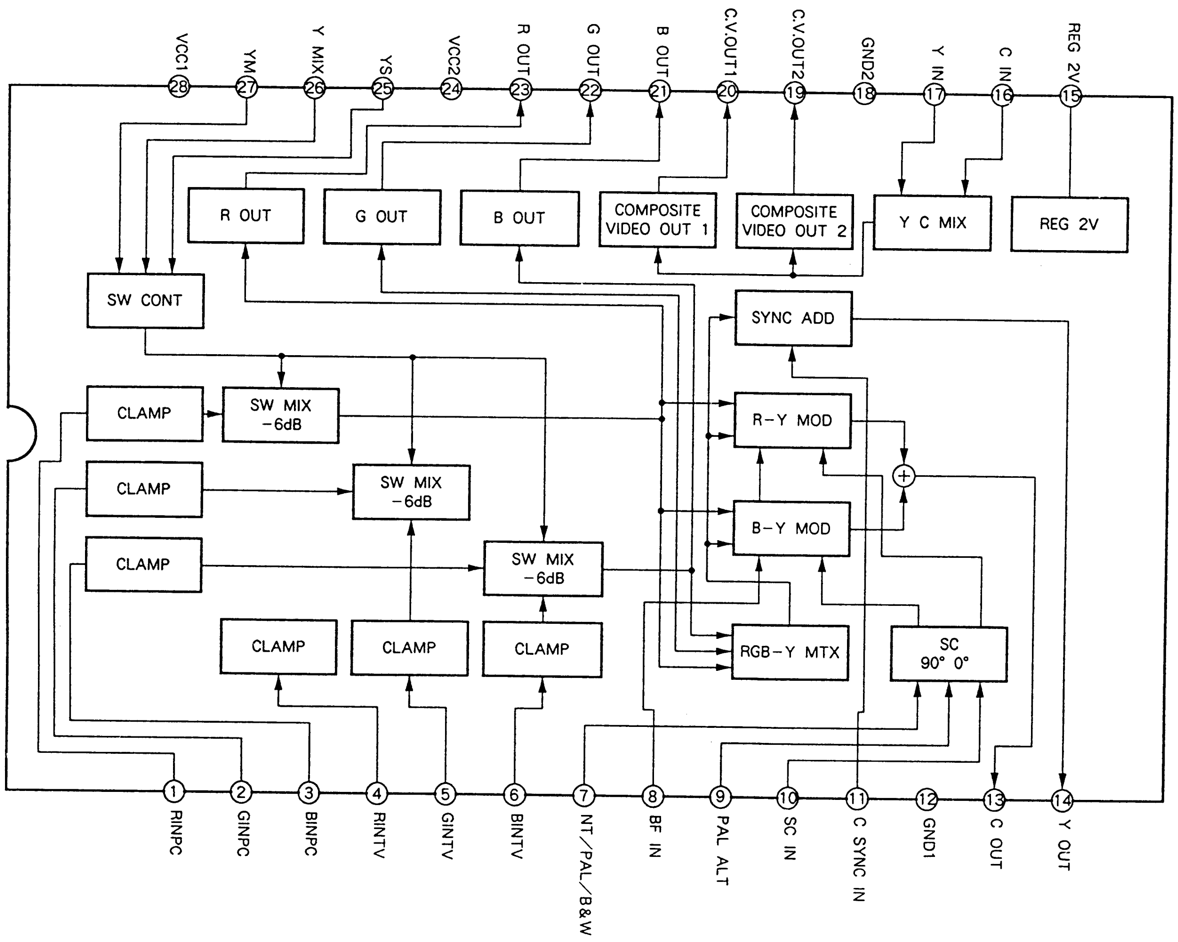
| | |
|---|---|
| Y | ➡» |
| CHROMA | ➡ |
| Y/CHROMA | ➡⋙ |
| R−Y | ⇨ |
| B−Y | ⇨» |
| SYNC | ▷ |
| HD | ▷» |
| VD | ▷⋙ |

CONTROL Signal

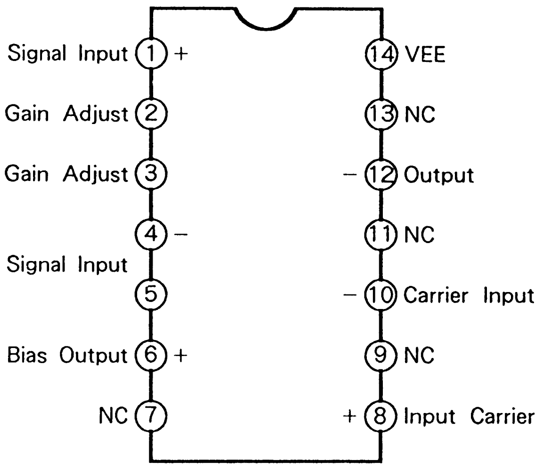
| | |
|---|---|
| CONTROL | ▷ |
| A/D REF | ► |
| KEY PULSE | ►» |
| SC | ► |
| CLK | ►⋙ |
| BEGIN | ▷» |
| INT | ► |
| SIRIAL IN | ►» |
| SIRIAL OUT | ►⋙ |
| AUDIO Signal | ⇨ |

When indicating parts by reference number, please include the board name.

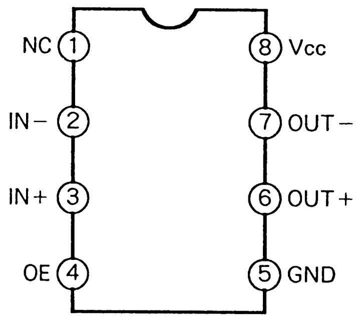
**IC856 V7040**


VCC1 ㉘
YM ㉗
Y MIX ㉖
YS ㉕
VCC2 ㉔
R OUT ㉓
G OUT ㉒
B OUT ㉑
C.VOUT1 ⑳
C.VOUT2 ⑲
GND2 ⑱
Y IN ⑰
C IN ⑯
REG 2V ⑮
R OUT
G OUT
B OUT
COMPOSITE VIDEO OUT 1
COMPOSITE VIDEO OUT 2
Y C MIX
REG 2V
SW CONT
SYNC ADD
CLAMP
SW MIX -6dB
R-Y MOD
CLAMP
SW MIX -6dB
B-Y MOD
CLAMP
SW MIX -6dB
CLAMP
CLAMP
CLAMP
RGB-Y MTX
SC 90° 0°
① RINPC
② GINPC
③ BINPC
④ RINTV
⑤ GINTV
⑥ BINTV
⑦ NT/PAL/B&W
⑧ BF IN
⑨ PAL ALT
⑩ SC IN
⑪ C SYNC IN
⑫ GND1
⑬ C OUT
⑭ Y OUT

**IC901 MC1496M**


Signal Input ① +
Gain Adjust ②
Gain Adjust ③
④ −
Signal Input ⑤
Bias Output ⑥ +
NC ⑦
⑭ VEE
⑬ NC
− ⑫ Output
⑪ NC
− ⑩ Carrier Input
⑨ NC
+ ⑧ Input Carrier

**IC908 TL712CPS**


NC ①
IN− ②
IN+ ③
OE ④
⑧ Vcc
⑦ OUT−
⑥ OUT+
⑤ GND

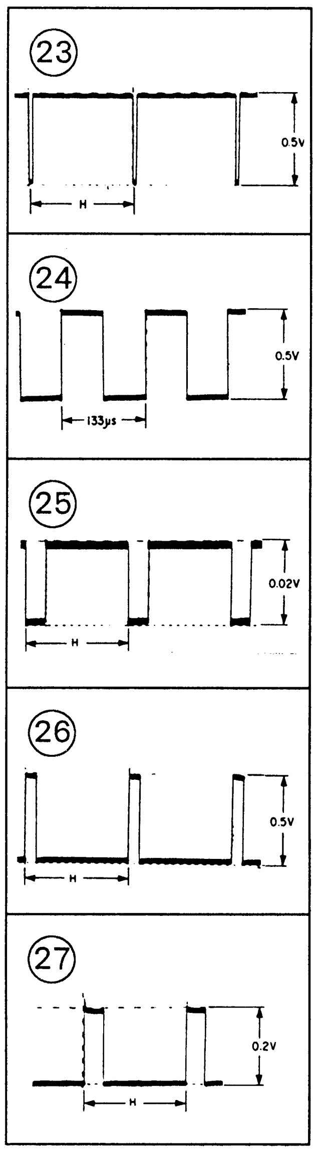
- Signal path

SOURCE Signal
Y ➡
CHROMA ➡
Y/CHROMA ➡
R−Y ⇨
B−Y ⇨
SYNC ▷
HD ▷
VD ▷

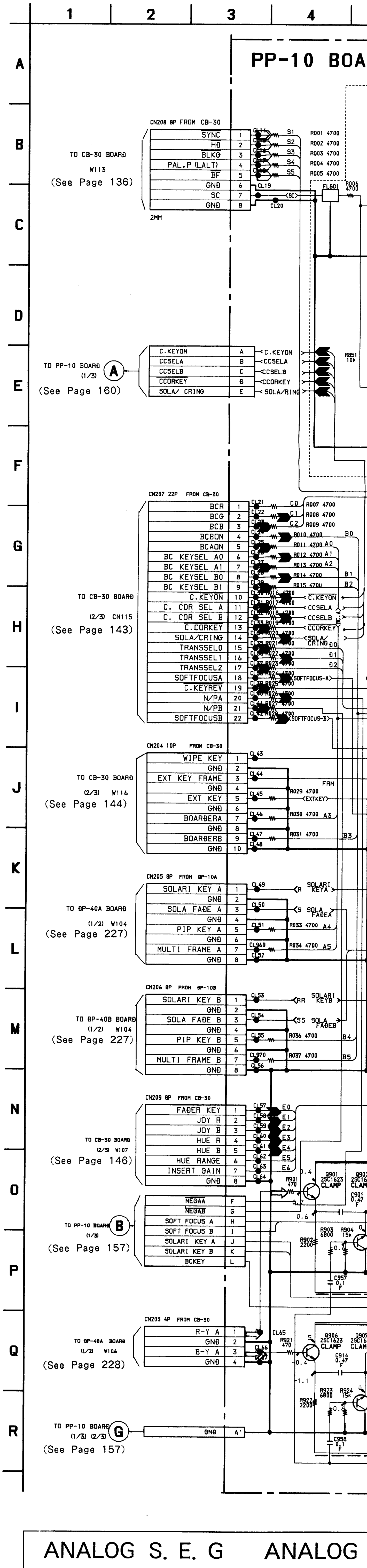
CONTROL Signal
CONTROL ▷
A/D REF ➡
KEY PULSE ➡
SC ➡
CLK ➡
BEGIN ▷
INT ➡
SIRIAL IN ➡
SIRIAL OUT ➡
AUDIO Signal ⇨

When indicating parts by reference number, please include the board name.

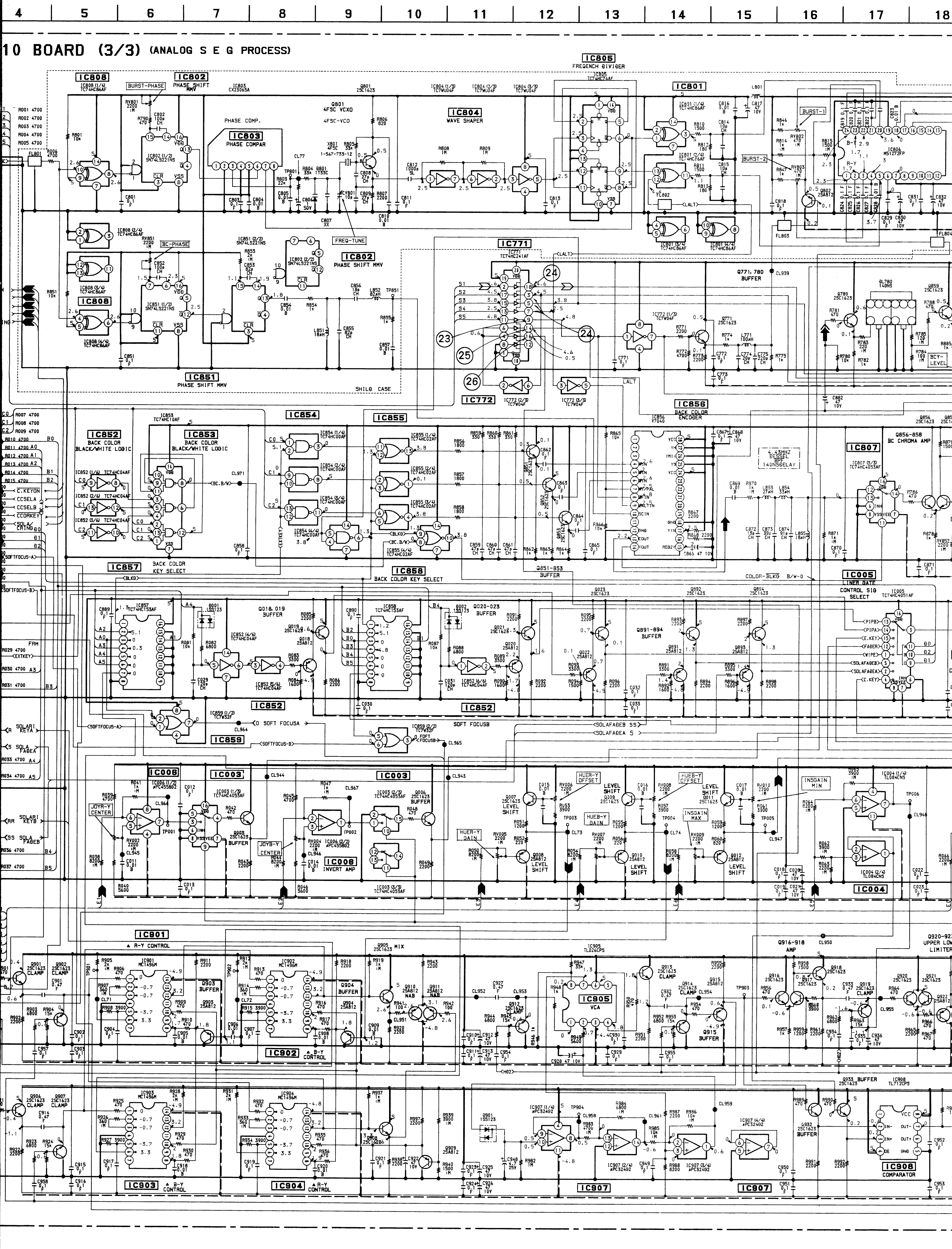
## PP-10 BOARD (3/3)



**PP-10 (3/3) (ANALOG S. E. G PROCESS) SCHE**
—Ref. No. PP-10 BOARD : 1,000 Series—


1
2
3
4
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
PP-10 BOA
CN208 8P FROM CB-30
SYNC
HD
BLKG
PAL.P (LALT)
BF
GND
SC
GND
TO CB-30 BOARD
W113
(See Page 136)
2MM
CN207 22P FROM CB-30
BCR
BCG
BCB
BCBON
BCAON
BC KEYSEL A0
BC KEYSEL A1
BC KEYSEL B0
BC KEYSEL B1
C.KEYON
C. COR SEL A
C. COR SEL B
C.CORKEY
SOLA/CRING
TRANSSEL0
TRANSSEL1
TRANSSEL2
SOFTFOCUSA
C.KEYREV
N/PA
N/PB
SOFTFOCUSB
TO CB-30 BOARD
(2/3) CN115
(See Page 143)
C.KEYON
CCSELA
CCSELB
CCORKEY
SOLA/ CRING
TO PP-10 BOARD Ⓐ
(1/3)
(See Page 160)
CN204 10P FROM CB-30
WIPE KEY
GND
EXT KEY FRAME
GND
EXT KEY
GND
BOARDERA
GND
BOARDERB
GND
TO CB-30 BOARD
(2/3) W116
(See Page 144)
CN205 8P FROM BP-10A
SOLARI KEY A
GND
SOLA FADE A
GND
PIP KEY A
GND
MULTI FRAME A
GND
TO BP-40A BOARD
(1/2) W104
(See Page 227)
CN206 8P FROM BP-10B
SOLARI KEY B
GND
SOLA FADE B
GND
PIP KEY B
GND
MULTI FRAME B
GND
TO BP-40B BOARD
(1/2) W104
(See Page 227)
CN209 8P FROM CB-30
FADER KEY
JOY R
JOY B
HUE R
HUE B
HUE RANGE
INSERT GAIN
GND
TO CB-30 BOARD
(2/3) W107
(See Page 146)
NEGAA
NEGAB
SOFT FOCUS A
SOFT FOCUS B
SOLARI KEY A
SOLARI KEY B
BCKEY
TO PP-10 BOARD Ⓑ
(1/3)
(See Page 157)
CN203 4P FROM CB-30
R-Y A
GND
B-Y A
GND
TO BP-40A BOARD
(1/2) W106
(See Page 228)
TO PP-10 BOARD Ⓖ
(1/3) (2/3)
(See Page 157)
GND
Q901 2SC1623 CLAMP
Q906 2SC1623 CLAMP
FL801
ANALOG S. E. G ANALOG

## 10 BOARD (3/3) (ANALOG S E G PROCESS)


4
5
6
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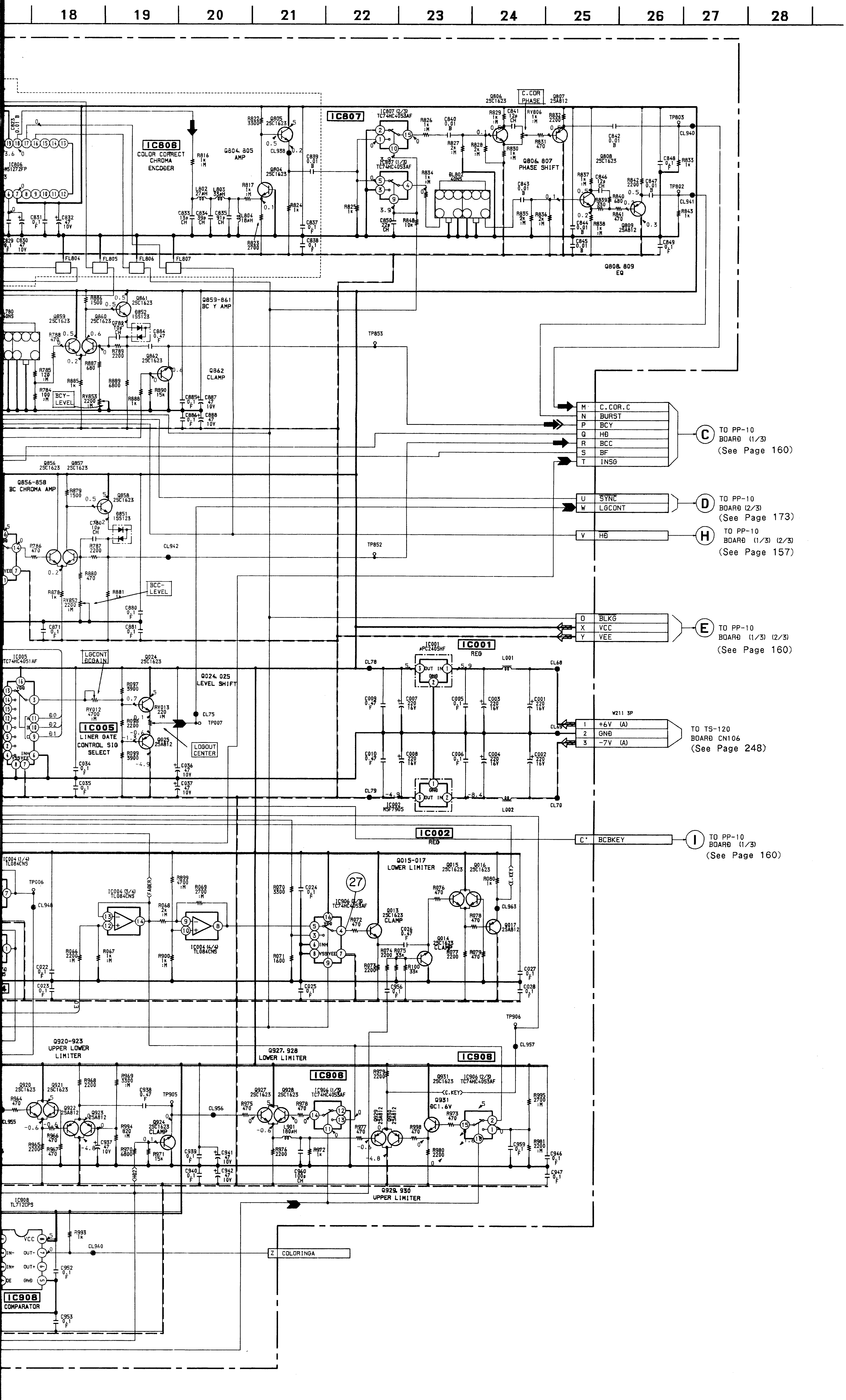
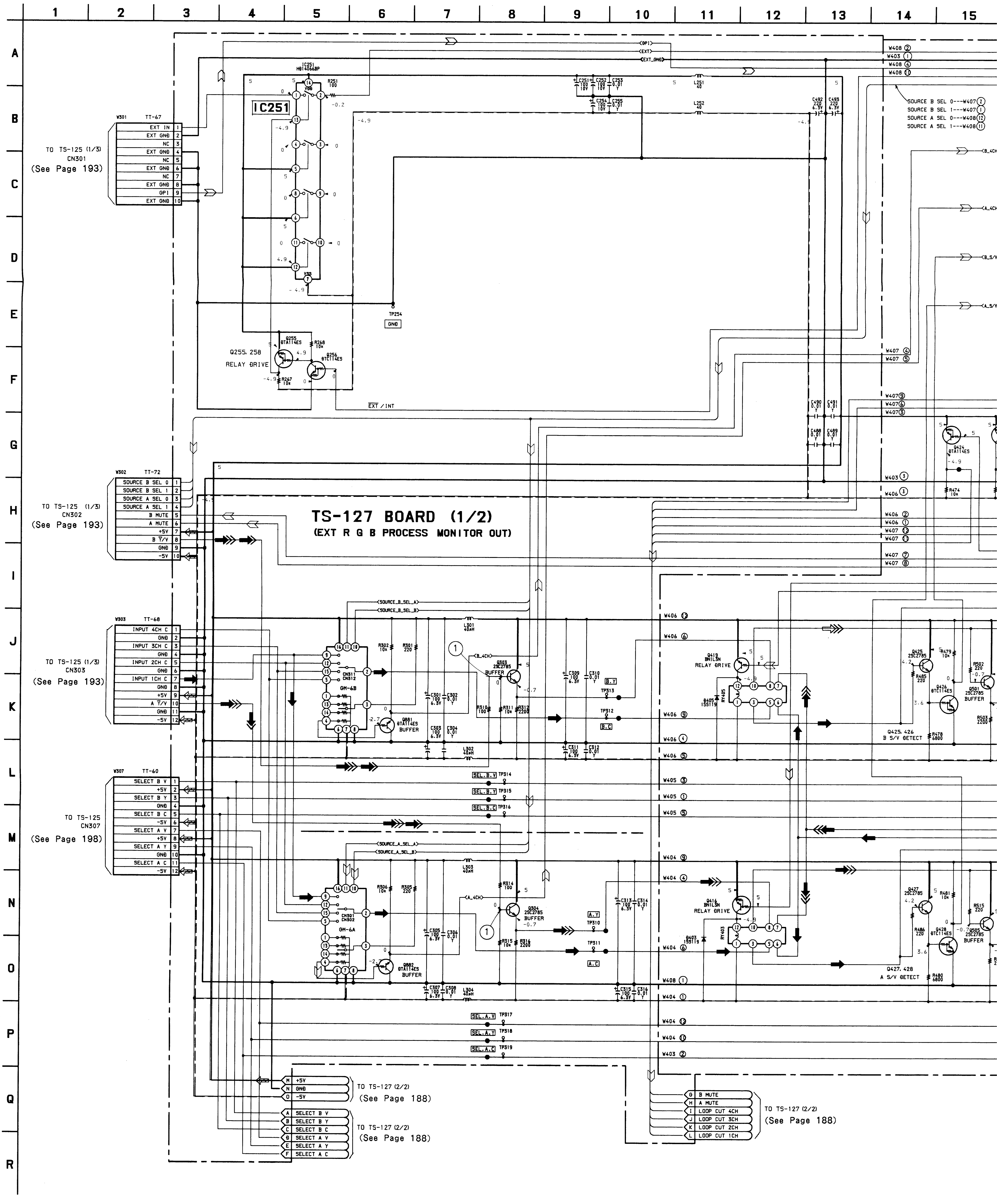
11
12
13
14
15
16
17
18
IC808
IC802 PHASE SHIFT MMV
BURST-PHASE
IC803 CX23065A
PHASE COMP.
IC803 PHASE COMPAR
Q801 4FSC VCXO
4FSC-VCO
X801 4FSC 1-567-733-12
IC804 WAVE SHAPER
IC805 FREQENCH DIVIDER
IC801
BURST-1
BURST-2
IC806 M51272FP
BC-PHASE
FREQ-TUNE
IC802 PHASE SHIFT MMV
IC851 PHASE SHIFT MMV
SHILD CASE
IC771 TC74HC241AF
IC772
Q771, 780 BUFFER
BL780 140NS
BCY-LEVEL
LALT
IC852 BACK COLOR BLACK/WHITE LOGIC
IC853 BACK COLOR BLACK/WHITE LOGIC
IC854
IC855
IC856 BACK COLOR ENCODER Y7040
4.43MHZ BESSEL BPF 140NSDELAY
IC807
Q856-858 BC CHROMA AMP
IC857 BACK COLOR KEY SELECT
IC858 BACK COLOR KEY SELECT
Q851-853 BUFFER
COLOR-BLKG B/W-0
IC005 LINER GATE CONTROL SIG SELECT TC74HC4051AF
Q018, 019 BUFFER
Q020-023 BUFFER
Q891-894 BUFFER
IC852
IC859
SOFT FOCUSA
SOFT FOCUSB
SOLAFADEB SS
SOLAFADEA S
IC006
IC003
IC003
IC008 INVERT AMP
JOYR-Y CENTER
JOYB-Y CENTER
Q003 BUFFER
Q006 BUFFER
HUER-Y OFFSET
HUEB-Y OFFSET
LEVEL SHIFT
HUER-Y GAIN
HUEB-Y GAIN
INSGAIN MIN
INSGAIN MAX
IC004 TL084CNS
IC004
IC901 R-Y CONTROL MC1496M
IC902 B-Y CONTROL MC1496M
Q901 CLAMP
Q902 CLAMP
Q903 BUFFER
Q904 BUFFER
Q905 MIX
Q910 NAB
Q911 NAB
IC905 VCA TL026CPS
Q912 CLAMP
Q913
Q914 CLAMP
Q915 BUFFER
Q916-918 AMP
Q920-923 UPPER LOW LIMITER
IC903 B-Y CONTROL MC1496M
IC904 R-Y CONTROL MC1496M
Q906 CLAMP
Q907 CLAMP
D901 1SS123
IC907 μPC324G2
IC907
Q933 BUFFER
IC908 TL712CPS COMPARATOR
Q932 BUFFER


18
19
20
21
22
23
24
25
26
27
28
IC806
COLOR CORRECT CHROMA ENCODER
IC806 M51272FP
Q804, 805 AMP
IC807
IC807 (2/3) TC74HC4053AF
IC807 (1/3) TC74HC4053AF
BL802 40NS
C.COR PHASE
RV806
Q806 2SC1623
Q807 2SA812
Q806, 807 PHASE SHIFT
Q808 2SC1623
Q809 2SA812
Q808, 809 EQ
TP803
TP802
CL940
CL941
FL804
FL805
FL806
FL807
Q859-861 BC Y AMP
Q862 CLAMP
BCY-LEVEL
TP853
Q856-858 BC CHROMA AMP
BCC-LEVEL
CL942
TP852
M C.COR.C
N BURST
P BCY
Q HD
R BCC
S BF
T INSG
C TO PP-10 BOARD (1/3) (See Page 160)
U SYNC
W LGCONT
D TO PP-10 BOARD (2/3) (See Page 173)
V HD
H TO PP-10 BOARD (1/3) (2/3) (See Page 157)
O BLKG
X VCC
Y VEE
E TO PP-10 BOARD (1/3) (2/3) (See Page 160)
IC005 TC74HC4051AF
LGCONT BCGAIN
Q024 2SC1623
Q024, 025 LEVEL SHIFT
Q025 2SA812
IC005 LINER GATE CONTROL SIG SELECT
LOGOUT CENTER
CL75
TP007
IC001 μPC2405HF
IC001 REG
L001
CL78
CL68
W211 3P
1 +6V (A)
2 GND
3 -7V (A)
TO TS-120 BOARD CN106 (See Page 248)
CL79
CL70
IC002 M5F7905
L002
IC002 REG
C' BCBKEY
I TO PP-10 BOARD (1/3) (See Page 160)
IC004 (1/4) TL084CNS
TP006
CL948
IC004 (3/4) TL084CNS
IC004 (4/4) TL084CNS
<FADER>
27
IC906 (3/3) TC74HC4053AF
Q013 2SC1623 CLAMP
Q014 2SC1623 CLAMP
Q015-017 LOWER LIMITER
Q015 2SC1623
Q016 2SC1623
Q017 2SA812
<C.KEY>
CL963
TP906
CL957
Q920-923 UPPER LOWER LIMITER
Q920 2SC1623
Q921 2SC1623
Q922 2SA812
Q923 2SA812
Q924 2SC1623 CLAMP
CL955
TP905
CL956
Q927, 928 LOWER LIMITER
IC906
Q927 2SC1623
Q928 2SC1623
IC906 (1/3) TC74HC4053AF
L901 180μH
Q929 2SA812
Q930 2SA812
Q929, 930 UPPER LIMITER
IC908
Q931 2SC1623
Q931 BC1.6V
IC906 (2/3) TC74HC4053AF
<HD2>
IC908 TL712CPS
VCC
IN-
IN+
OUT-
OUT+
GND
CL960
IC908 COMPARATOR
Z COLORINGA

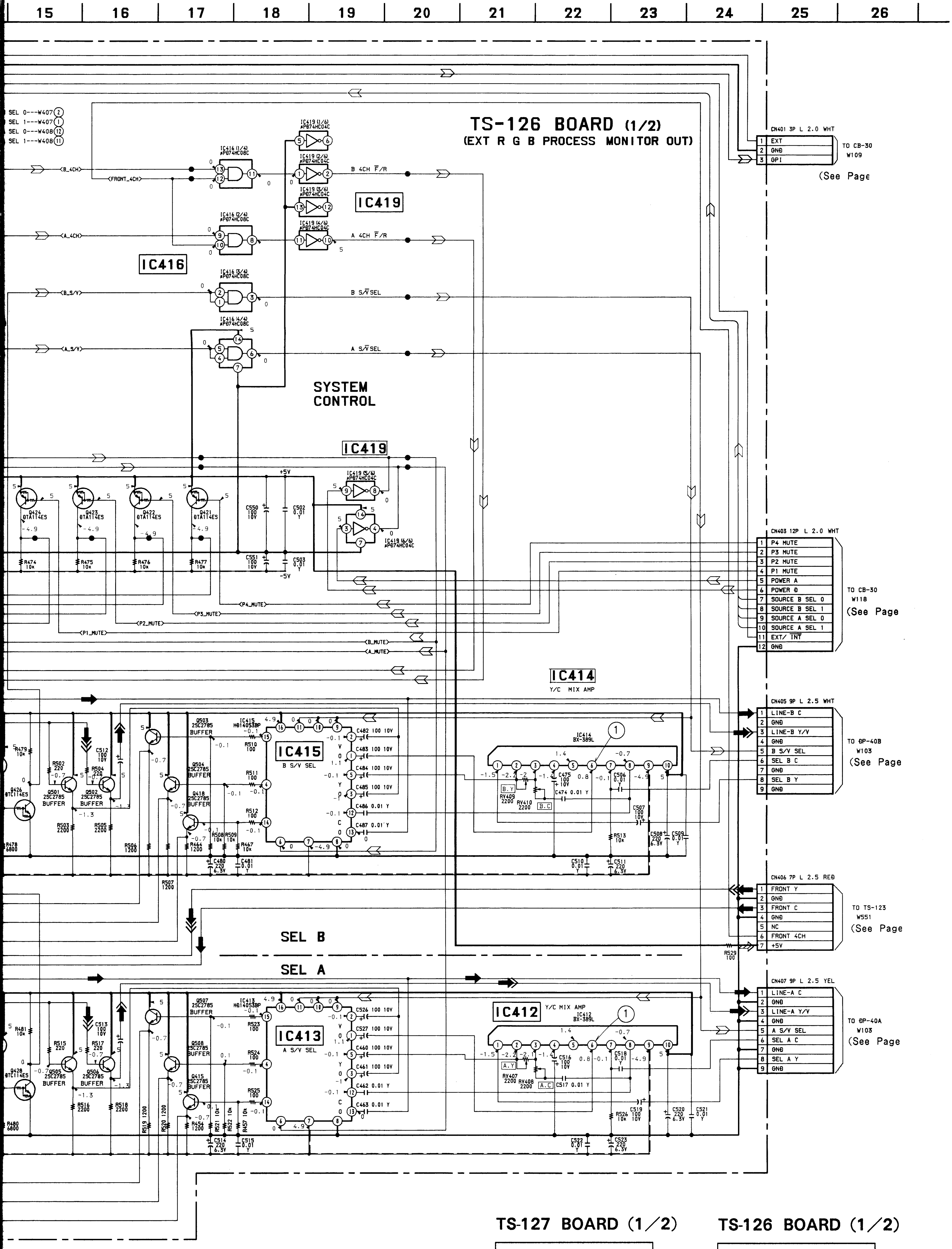
ANALOG S. E. G ANALOG S. E. G

## TS-126, TS-127 (1/2) (EXT R. G. B PROCESS MONITOR OUT) SCHEMATIC DIAGRAMS

—Ref. No. TS-126 BOARD : 4,000 Series, TS-127 BOARD : 5,000 Series—



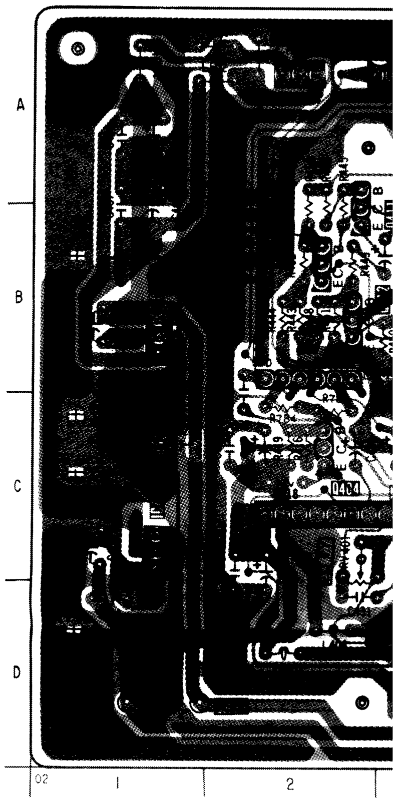
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
A B C D E F G H I J K L M N O P Q R
TS-127 BOARD (1/2)
(EXT R G B PROCESS MONITOR OUT)
IC251
IC251 HD14066BP
R251 100
TO TS-125 (1/3) CN301 (See Page 193)
W301 TT-67
EXT IN 1
EXT GND 2
NC 3
EXT GND 4
NC 5
EXT GND 6
NC 7
EXT GND 8
GPI 9
EXT GND 10
(GPI)
(EXT)
(EXT_GND)
W408 ②
W403 ①
W408 ④
W408 ⑩
SOURCE B SEL 0---W407②
SOURCE B SEL 1---W407①
SOURCE A SEL 0---W408⑫
SOURCE A SEL 1---W408⑪
(B_4CH)
(A_4CH)
(B_S/V)
(A_S/V)
L251 40
L252 40
C251 100 10V
C252 100 10V
C253 0.01 Y
C254 100 10V
C255 0.01 Y
C492 220 6.3V
C493 220 6.3V
TP254
GND
Q255, 258
RELAY DRIVE
Q255 DTA114ES
Q256 DTC114ES
R268 10k
R267 10k
EXT / INT
W407 ④
W407 ⑤
C490 0.01 Y
C491 0.01 Y
C488 0.01 Y
C489 0.01 Y
W407⑨
W407⑥
W407⑧
Q424 DTA114ES
R474 10k
W403 ③
W406 ③
W406 ②
W406 ①
W407 ⑫
W407 ⑩
W407 ⑦
W407 ⑧
TO TS-125 (1/3) CN302 (See Page 193)
W302 TT-72
SOURCE B SEL 0 1
SOURCE B SEL 1 2
SOURCE A SEL 0 3
SOURCE A SEL 1 4
B MUTE 5
A MUTE 6
+5V 7
B Y/V 8
GND 9
-5V 10
TO TS-125 (1/3) CN303 (See Page 193)
W303 TT-68
INPUT 4CH C 1
GND 2
INPUT 3CH C 3
GND 4
INPUT 2CH C 5
GND 6
INPUT 1CH C 7
GND 8
+5V 9
A Y/V 10
GND 11
-5V 12
TO TS-125 CN307 (See Page 198)
W307 TT-60
SELECT B V 1
+5V 2
SELECT B Y 3
GND 4
SELECT B C 5
-5V 6
SELECT A V 7
+5V 8
SELECT A Y 9
GND 10
SELECT A C 11
-5V 12
(SOURCE_B_SEL_A)
(SOURCE_B_SEL_B)
(SOURCE_A_SEL_A)
(SOURCE_A_SEL_B)
CN311 CN312
GM-6B
CN301 CN302
GM-6A
L301 40μH
L302 40μH
L303 40μH
L304 40μH
R302 10k
R301 220
R306 10k
R305 220
Q303 2SC2785 BUFFER
Q304 2SC2785 BUFFER
Q881 DTA114ES BUFFER
Q882 DTA114ES BUFFER
R310 100
R311 10k
R312 2200
R314 100
R315 10k
R316 2200
C301 100 6.3V
C302 0.01 Y
C303 100 6.3V
C304 0.01 Y
C305 100 6.3V
C306 0.01 Y
C307 100 6.3V
C308 0.01 Y
C309 100 6.3V
C310 0.01 Y
C311 100 6.3V
C312 0.01 Y
C313 100 6.3V
C314 0.01 Y
C315 100 6.3V
C316 0.01 Y
B.Y
TP313
TP312
B.C
A.Y
TP310
TP311
A.C
SEL.B.V TP314
SEL.B.Y TP315
SEL.B.C TP316
SEL.A.V TP317
SEL.A.Y TP318
SEL.A.C TP319
W406 ⑫
W406 ⑥
W406 ⑨
W406 ④
W406 ⑤
W405 ③
W405 ①
W405 ⑤
W404 ⑨
W404 ④
W404 ⑥
W408 ①
W404 ①
W404 ⑫
W404 ⑩
W403 ②
Q419 BN1L3N RELAY DRIVE
D405 1SS119
RY405
Q416 BN1L3N RELAY DRIVE
D403 1SS119
RY403
Q425 2SC2785
Q426 DTC114ES
Q425, 426 B S/V DETECT
R479 10k
R485 220
R478 6800
Q501 2SC2785 BUFFER
R502 220
R503 2200
Q427 2SC2785
Q428 DTC114ES
Q427, 428 A S/V DETECT
R481 10k
R486 220
R480 6800
Q505 2SC2785 BUFFER
R515 220
M +5V
N GND
O -5V
TO TS-127 (2/2) (See Page 188)
A SELECT B V
B SELECT B Y
C SELECT B C
D SELECT A V
E SELECT A Y
F SELECT A C
TO TS-127 (2/2) (See Page 188)
G B MUTE
H A MUTE
I LOOP CUT 4CH
J LOOP CUT 3CH
K LOOP CUT 2CH
L LOOP CUT 1CH
TO TS-127 (2/2) (See Page 188)


15
16
17
18
19
20
21
22
23
24
25
26
SEL 0---W407②
SEL 1---W407①
SEL 0---W408⑫
SEL 1---W408⑪
TS-126 BOARD (1/2)
(EXT R G B PROCESS MONITOR OUT)
IC416
IC419
IC414
IC415
IC413
IC412
SYSTEM CONTROL
Y/C MIX AMP
B S/V SEL
A S/V SEL
SEL B
SEL A
CN401 3P L 2.0 WHT
EXT
GND
GPI
TO CB-30 W109
(See Page
CN403 12P L 2.0 WHT
P4 MUTE
P3 MUTE
P2 MUTE
P1 MUTE
POWER A
POWER B
SOURCE B SEL 0
SOURCE B SEL 1
SOURCE A SEL 0
SOURCE A SEL 1
EXT/INT
GND
TO CB-30 W118
(See Page
CN405 9P L 2.5 WHT
LINE-B C
GND
LINE-B Y/V
GND
B S/V SEL
SEL B C
GND
SEL B Y
GND
TO BP-40B W103
(See Page
CN406 7P L 2.5 RED
FRONT Y
GND
FRONT C
GND
NC
FRONT 4CH
+5V
TO TS-123 W551
(See Page
CN407 9P L 2.5 YEL
LINE-A C
GND
LINE-A Y/V
GND
A S/V SEL
SEL A C
GND
SEL A Y
GND
TO BP-40A W103
(See Page
BUFFER
B 4CH F/R
A 4CH F/R
B S/V SEL
A S/V SEL

## TS-126, TS-127 (EXT R. G. B

—Ref. No. TS-126 BOARD : 4,000

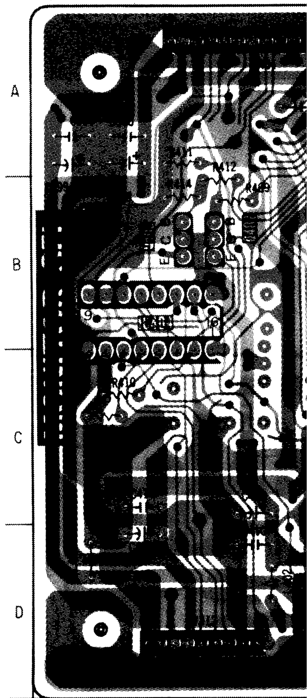
TS-126 BOARD



TS-126 BOARD

| | | | |
|---|---|---|---|
| D403 | C-7 | Q413 | B |
| D405 | C-10 | Q415 | D |
| | | Q416 | C |
| IC401 | B-1 | Q418 | D |
| IC402 | C-1 | Q419 | C |
| IC408 | C-2 | Q421 | D |
| IC409 | C-3 | Q422 | D |
| IC410 | B-4 | Q423 | D |
| IC411 | A-6 | Q424 | D |
| IC412 | A-8 | Q425 | C |
| IC413 | B-8 | Q426 | C |
| IC414 | A-9 | Q427 | B |
| IC415 | B-10 | Q428 | C |
| IC416 | B-11 | Q501 | C |
| IC419 | A-11 | Q502 | C |
| | | Q503 | D |
| Q404 | C-2 | Q504 | D |
| Q405 | C-4 | Q505 | C |
| Q406 | C-5 | Q506 | C |
| Q407 | C-5 | Q507 | D |
| Q408 | B-5 | Q508 | D |
| Q409 | B-4 | Q781 | C |
| Q410 | A-3 | Q782 | B |
| Q411 | B-2 | Q783 | B |
| Q412 | B-2 | | |

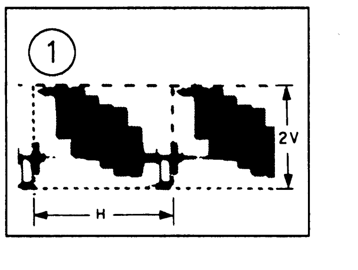
TS-127 BOARD



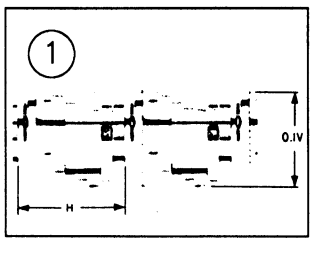
TS-127 BOARD

| | | |
|---|---|---|
| D401 | C-4 | Q255 |
| D402 | C-4 | Q256 |
| | | Q303 |
| IC251 | C-9 | Q30 |
| IC404 | B-1 | Q40 |
| IC405 | A-3 | Q40 |
| IC406 | B-3 | Q41 |
| IC407 | C-3 | Q88 |
| | | Q88 |

TS-127 BOARD (1/2)



TS-126 BOARD (1/2)

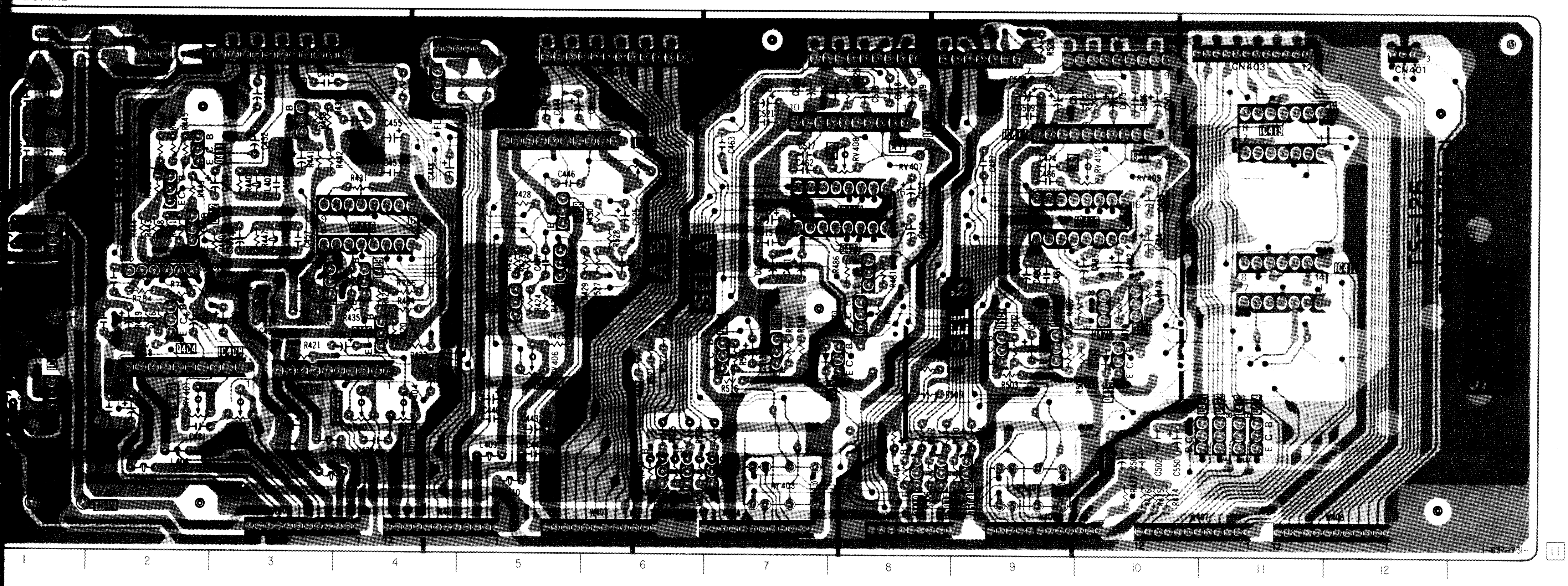


PROCESS OUT PROCESS OUT

## TS-127 (EXT R. G. B PROCESS MONITOR OUT) PRINTED WIRING BOARDS

. TS-126 BOARD : 4,000 Series, TS-127 BOARD : 5,000 Series—

BOARD



TS-126 BOARD

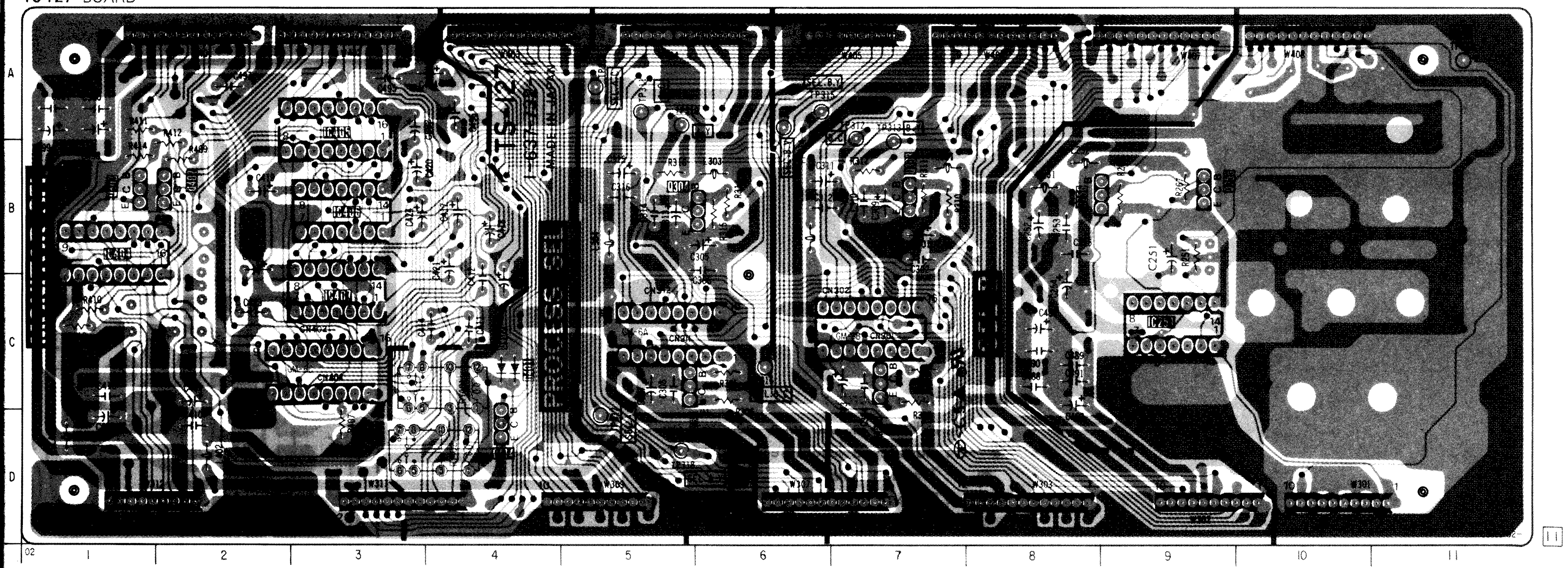
| | | | |
|---|---|---|---|
| D403 | C-7 | Q413 | B-2 |
| D405 | C-10 | Q415 | D-6 |
| | | Q416 | C-8 |
| IC401 | B-1 | Q418 | D-8 |
| IC402 | C-1 | Q419 | C-10 |
| IC408 | C-2 | Q421 | D-11 |
| IC409 | C-3 | Q422 | D-11 |
| IC410 | B-4 | Q423 | D-11 |
| IC411 | A-6 | Q424 | D-11 |
| IC412 | A-8 | Q425 | C-10 |
| IC413 | B-8 | Q426 | C-10 |
| IC414 | A-9 | Q427 | B-8 |
| IC415 | B-10 | Q428 | C-8 |
| IC416 | B-11 | Q501 | C-9 |
| IC419 | A-11 | Q502 | C-9 |
| | | Q503 | D-8 |
| Q404 | C-2 | Q504 | D-9 |
| Q405 | C-4 | Q505 | C-7 |
| Q406 | C-5 | Q506 | C-7 |
| Q407 | C-5 | Q507 | D-6 |
| Q408 | B-5 | Q508 | D-7 |
| Q409 | B-4 | Q781 | C-3 |
| Q410 | A-3 | Q782 | B-2 |
| Q411 | B-2 | Q783 | B-2 |
| Q412 | B-2 | | |

For printed wiring boards :

- ○— : indicates a lead wire mounted on the componet side.
- ●— : indicates a lead wire mounted on the printed side.
- ● : Through hole.
- ■ : Pattern from the side which enables seeing.
- ▒ : Pattern of the rear side.

When indicating parts by reference number, please include the board name.

TS-127 BOARD



TS-127 BOARD

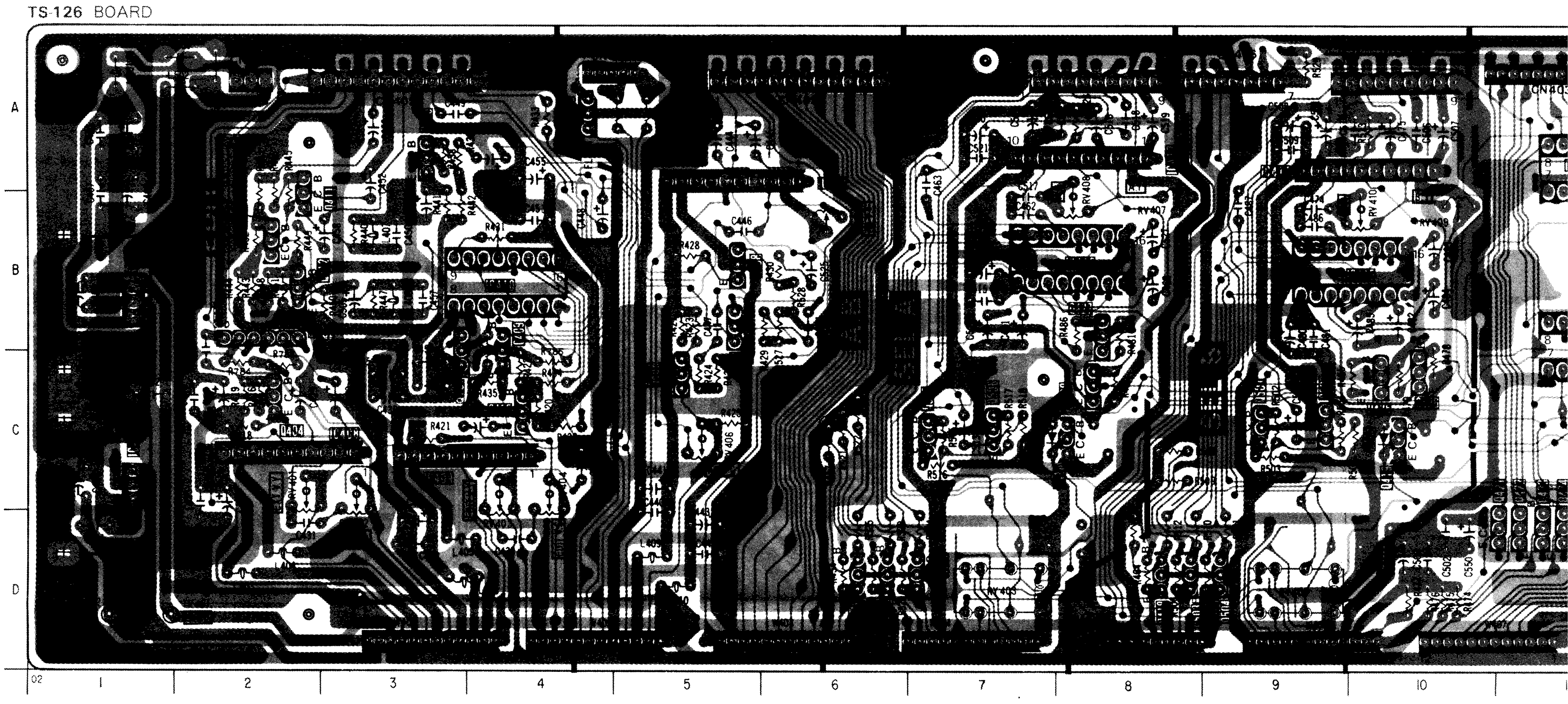
| | | | |
|---|---|---|---|
| D401 | C-4 | Q255 | B-9 |
| D402 | C-4 | Q256 | B-8 |
| | | Q303 | B-7 |
| IC251 | C-9 | Q304 | B-5 |
| IC404 | B-1 | Q402 | B-2 |
| IC405 | A-3 | Q403 | B-1 |
| IC406 | B-3 | Q414 | D-4 |
| IC407 | C-3 | Q881 | C-7 |
| | | Q882 | C-5 |

## TS-126, TS-127 (EXT R. G. B PROCESS MONITOR OUT), GM-6 PRINTED WIRING BOARDS

—Ref. No. TS-126 BOARD : 4,000 Series, TS-127 BOARD : 5,000 Series, GM-6 BOARD : 1,000 Series—

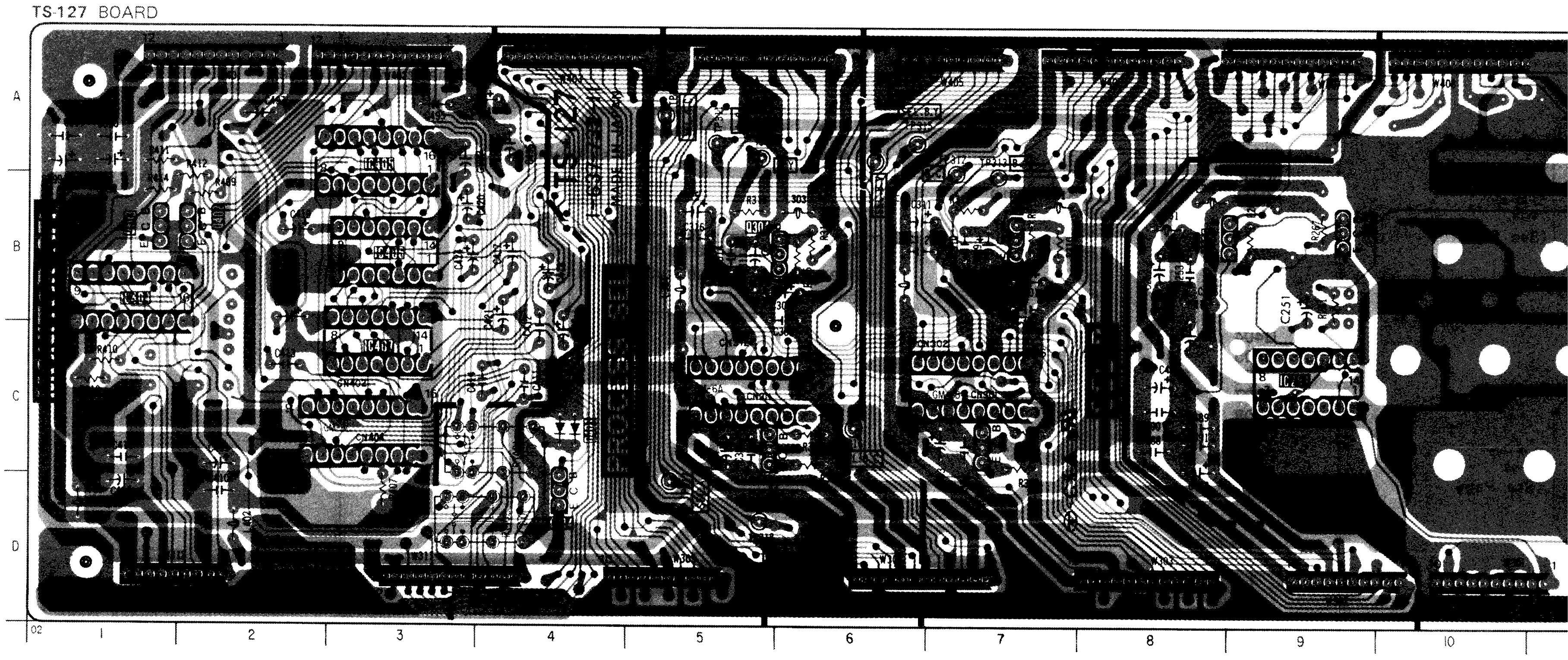
### TS-126 BOARD

| | | | |
|---|---|---|---|
| D403 | C-7 | Q413 | B-2 |
| D405 | C-10 | Q415 | D-6 |
| | | Q416 | C-8 |
| IC401 | B-1 | Q418 | D-8 |
| IC402 | C-1 | Q419 | C-10 |
| IC408 | C-2 | Q421 | D-11 |
| IC409 | C-3 | Q422 | D-11 |
| IC410 | B-4 | Q423 | D-11 |
| IC411 | A-6 | Q424 | D-11 |
| IC412 | A-8 | Q425 | C-10 |
| IC413 | B-8 | Q426 | C-10 |
| IC414 | A-9 | Q427 | B-8 |
| IC415 | B-10 | Q428 | C-8 |
| IC416 | B-11 | Q501 | C-9 |
| IC419 | A-11 | Q502 | C-9 |
| | | Q503 | D-8 |
| Q404 | C-2 | Q504 | D-9 |
| Q405 | C-4 | Q505 | C-7 |
| Q406 | C-5 | Q506 | C-7 |
| Q407 | C-5 | Q507 | D-6 |
| Q408 | B-5 | Q508 | D-7 |
| Q409 | B-4 | Q781 | C-3 |
| Q410 | A-3 | Q782 | B-2 |
| Q411 | B-2 | Q783 | B-2 |
| Q412 | B-2 | | |


TS-126 BOARD
A
B
C
D
02
1
2
3
4
5
6
7
8
9
10

### TS-127 BOARD

| | |
|---|---|
| D401 | C-4 |
| D402 | C-4 |
| | |
| IC251 | C-9 |
| IC404 | B-1 |
| IC405 | A-3 |
| IC406 | B-3 |
| IC407 | C-3 |
| | |
| Q255 | B-9 |
| Q256 | B-8 |
| Q303 | B-7 |
| Q304 | B-5 |
| Q402 | B-2 |
| Q403 | B-1 |
| Q414 | D-4 |
| Q881 | C-7 |
| Q882 | C-5 |

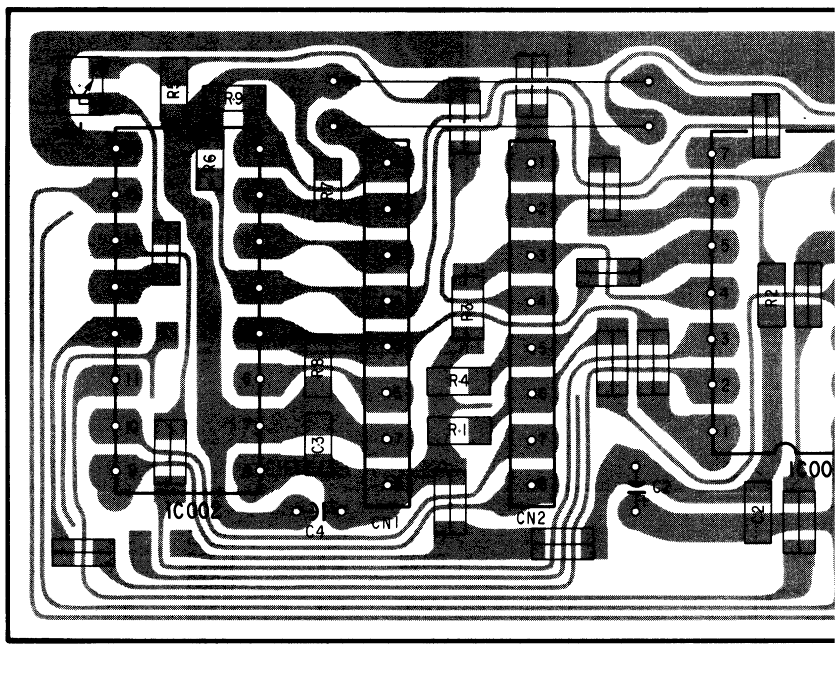

TS-127 BOARD
A
B
C
D
PROCESS SEL
02
1
2
3
4
5
6
7
8
9
10

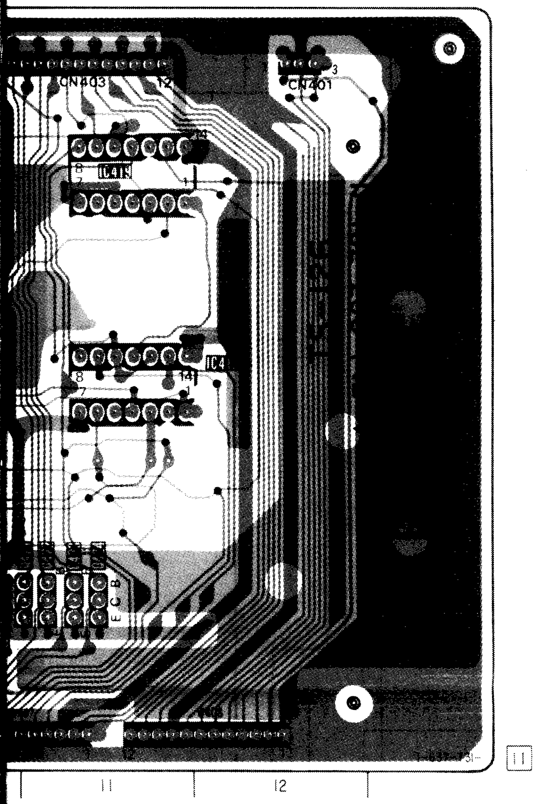
For printed wiring boards :

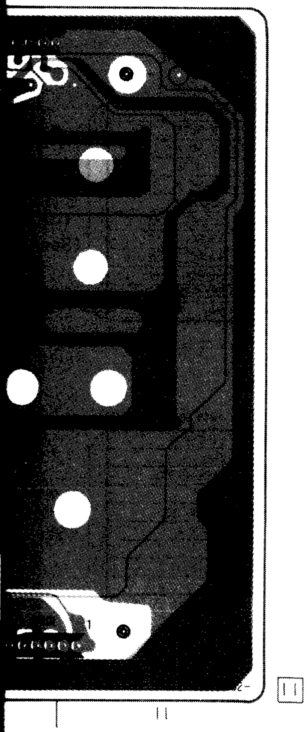
- ○— : indicates a lead wire mounted on the componet side.
- ●— : indicates a lead wire mounted on the printed side.
- ● : Through hole.
- ■ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

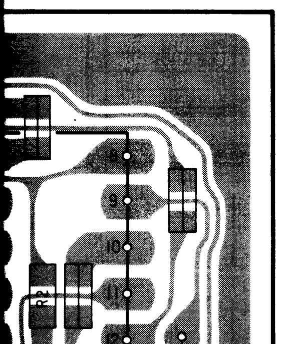
When indicating parts by reference number, please include the board name.

**GM-6 BOARD**


R9
R6
R7
R5
R8
R4
R-1
C3
C4
CN1
CN2
IC001
R2

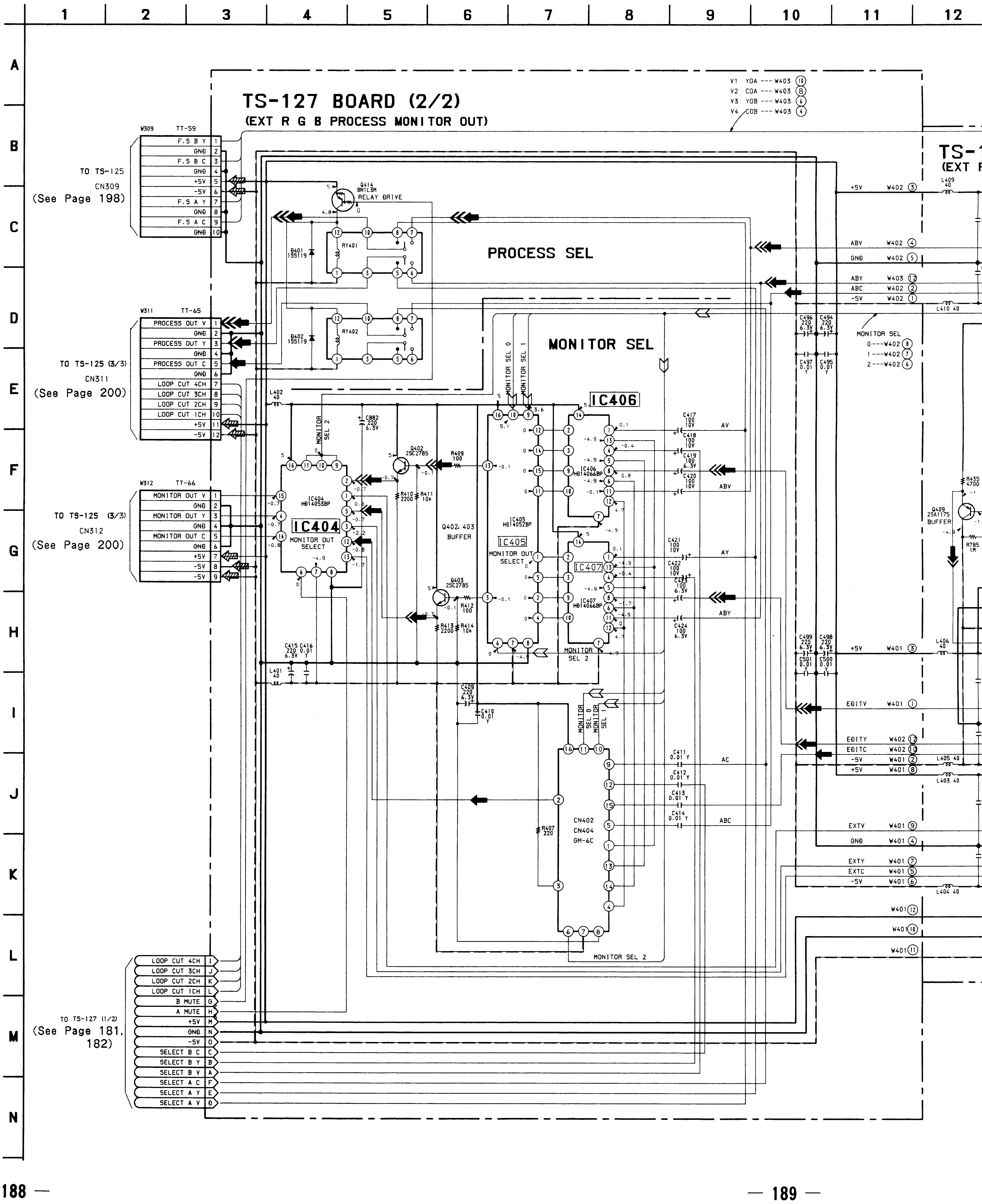

CN403
CN401
IC418
IC4
11
12





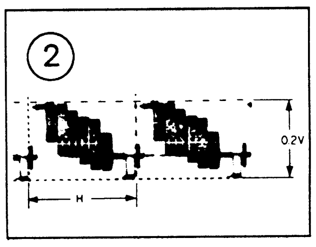
## TS-126, TS-127 (2/2) (EXT R. G. B PROCESS MONITOR OUT), GM-6 SCHEMATIC DIAGRAMS

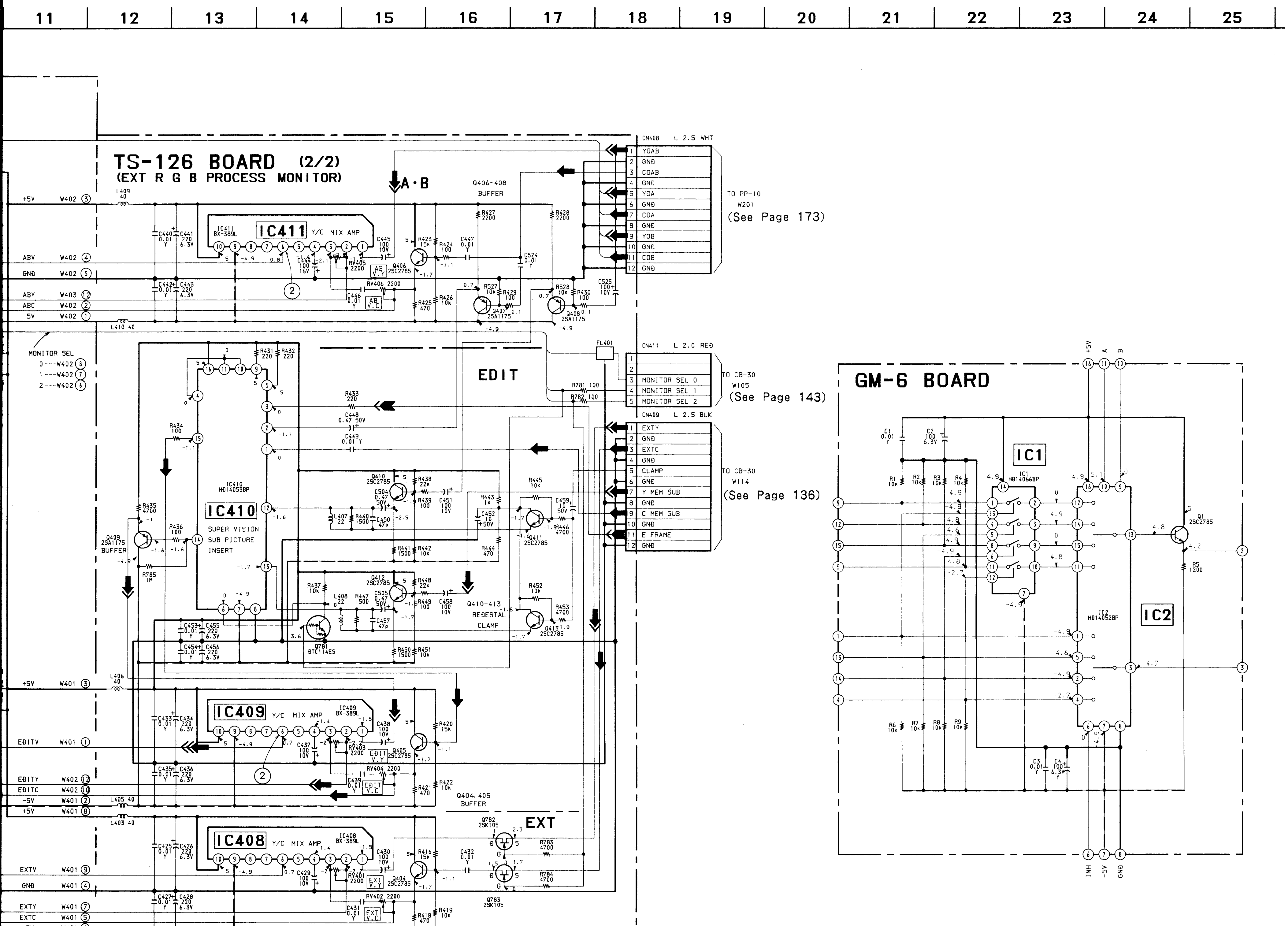
—Ref. No. TS-126 BOARD : 4,000 Series, TS-127 BOARD : 5,000 Series, GM-6 BOARD : 1,000 Series—


1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H
I
J
K
L
M
N
TS-127 BOARD (2/2)
(EXT R G B PROCESS MONITOR OUT)
V1 YOA --- W403 ⑩
V2 COA --- W403 ⑧
V3 YOB --- W403 ⑥
V4 COB --- W403 ④
W309 TT-59
F.S B Y
GND
F.S B C
GND
+5V
-5V
F.S A Y
GND
F.S A C
GND
TO TS-125 CN309 (See Page 198)
Q414 BN1L3M RELAY DRIVE
D401 1SS119
RY401
PROCESS SEL
W311 TT-65
PROCESS OUT V
GND
PROCESS OUT Y
GND
PROCESS OUT C
GND
LOOP CUT 4CH
LOOP CUT 3CH
LOOP CUT 2CH
LOOP CUT 1CH
+5V
-5V
TO TS-125 (3/3) CN311 (See Page 200)
D402 1SS119
RY402
MONITOR SEL
MONITOR SEL 0
MONITOR SEL 1
IC406
L402 40
MONITOR SEL 2
C882 220 6.3V
Q402 2SC2785
R409 100
R410 2200
R411 10k
IC404 HD14053BP
IC404 MONITOR OUT SELECT
Q402, 403 BUFFER
IC405 HD14052BP
IC405 MONITOR OUT SELECT
IC406 HD14066BP
IC407 HD14066BP
IC407
Q403 2SC2785
R412 100
R413 2200
R414 10k
MONITOR SEL 2
W312 TT-66
MONITOR OUT V
GND
MONITOR OUT Y
GND
MONITOR OUT C
GND
+5V
-5V
-5V
TO TS-125 (3/3) CN312 (See Page 200)
C415 220 6.3V
C416 0.01 Y
L401 40
C409 220 6.3V
C410 0.01 Y
C417 100 10V
C418 100 10V
C419 100 6.3V
C420 100 10V
C421 100 10V
C422 100 10V
C423 100 6.3V
C424 100 6.3V
AV
ABV
AY
ABY
C411 0.01 Y
C412 0.01 Y
C413 0.01 Y
C414 0.01 Y
AC
ABC
R407 220
CN402 CN404 GM-6C
MONITOR SEL 2
+5V W402 ③
ABV W402 ④
GND W402 ⑤
ABY W403 ⑫
ABC W402 ②
-5V W402 ①
L409 40
L410 40
C496 220 6.3V
C494 220 6.3V
C497 0.01 Y
C495 0.01 Y
MONITOR SEL
0---W402 ⑧
1---W402 ⑦
2---W402 ⑥
C499 220 6.3V
C498 220 6.3V
C501 0.01 Y
C500 0.01 Y
+5V W401 ③
L406 40
EDITV W401 ①
EDITY W402 ⑫
EDITC W402 ⑩
-5V W401 ②
+5V W401 ⑧
L405 40
L403 40
EXTV W401 ⑨
GND W401 ④
EXTY W401 ⑦
EXTC W401 ⑤
-5V W401 ⑥
L404 40
W401 ⑫
W401 ⑩
W401 ⑪
R435 4700
Q409 2SA1175 BUFFER
R785 1M
TS-
(EXT
LOOP CUT 4CH I
LOOP CUT 3CH J
LOOP CUT 2CH K
LOOP CUT 1CH L
B MUTE G
A MUTE H
+5V M
GND N
-5V O
SELECT B C C
SELECT B Y B
SELECT B V A
SELECT A C F
SELECT A Y E
SELECT A V D
TO TS-127 (1/2) (See Page 181, 182)

G S. E. G

## TS-126 BOARD (2/2)





11
12
13
14
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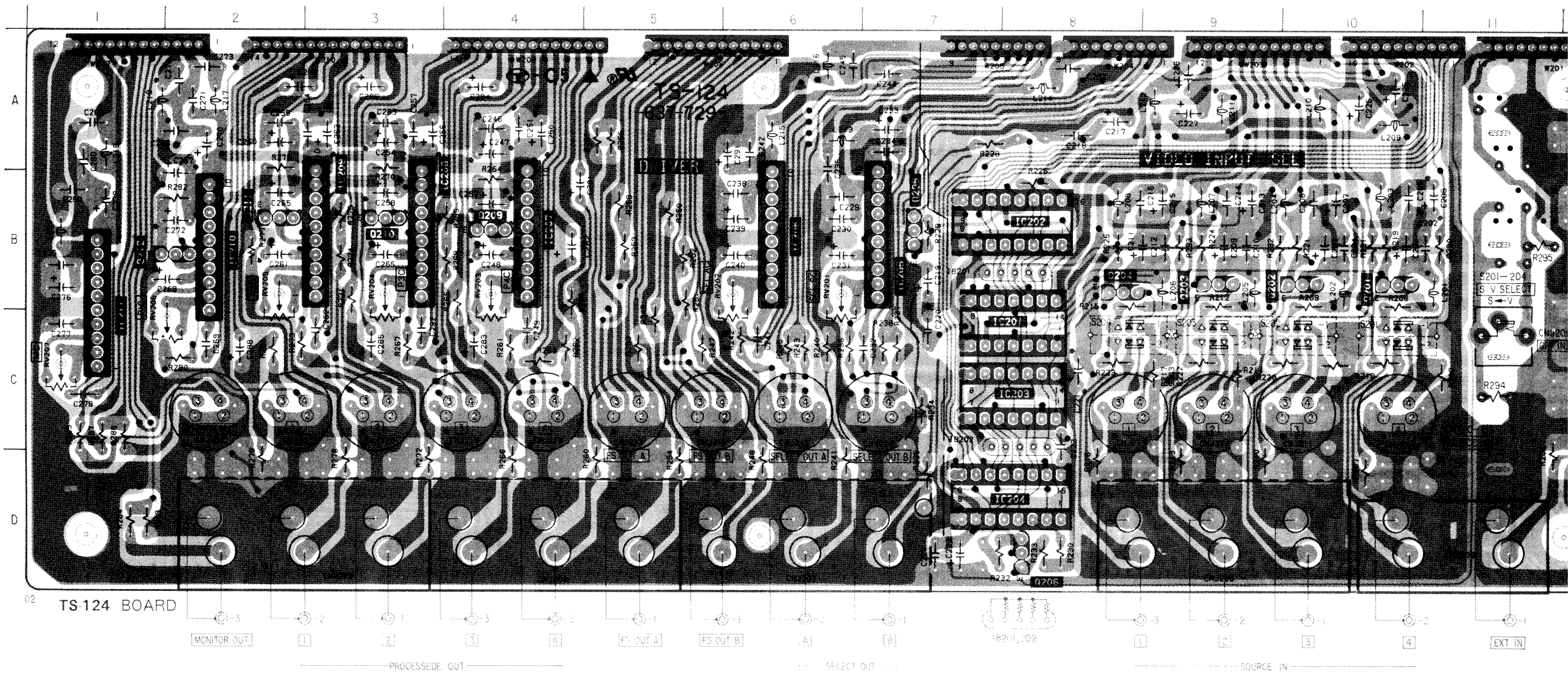
16
17
18
19
20
21
22
23
24
25
TS-126 BOARD (2/2)
(EXT R G B PROCESS MONITOR)
A·B
IC411 Y/C MIX AMP
IC410
HD14053BP
SUPER VISION
SUB PICTURE
INSERT
IC409 Y/C MIX AMP
IC408 Y/C MIX AMP
IC401
μPC2405HF
REG
IC402
NJM7905FA
REG
Q406-408
BUFFER
Q409
2SA1175
BUFFER
Q410-413
PEDESTAL
CLAMP
Q404, 405
BUFFER
Q782
2SK105
Q783
2SK105
Q781
DTC114ES
EDIT
EXT
MONITOR SEL
0---W402 ⑧
1---W402 ⑦
2---W402 ⑥
+5V W402 ③
ABY W402 ④
GND W402 ⑤
ABY W403 ⑫
ABC W402 ②
-5V W402 ①
+5V W401 ③
EDITV W401 ①
EDITY W402 ⑫
EDITC W402 ⑪
-5V W401 ②
+5V W401 ⑧
EXTV W401 ⑨
GND W401 ④
EXTY W401 ⑦
EXTC W401 ⑤
-5V W401 ⑥
W401 ⑫
W401 ⑩
W401 ⑪
TP401 +5V
TP402 -5V
CN408 L 2.5 WHT
1 YOAB
2 GND
3 COAB
4 GND
5 YOA
6 GND
7 COA
8 GND
9 YOB
10 GND
11 COB
12 GND
TO PP-10
W201
(See Page 173)
FL401
CN411 L 2.0 RED
1
2
3 MONITOR SEL 0
4 MONITOR SEL 1
5 MONITOR SEL 2
TO CB-30
W105
(See Page 143)
CN409 L 2.5 BLK
1 EXTY
2 GND
3 EXTC
4 GND
5 CLAMP
6 GND
7 Y MEM SUB
8 GND
9 C MEM SUB
10 GND
11 E FRAME
12 GND
TO CB-30
W114
(See Page 136)
CN412 L 2.5 WHT
1 +6V (A)
2 GND
3 -7V (A)
TO TS-120
W105
(See Page 248)
GM-6 BOARD
IC1
HD14066BP
IC2
HD14052BP
Q1
2SC2785
+5V
A
B
INH
-5V
GND

- Signal path

| SOURCE Signal | | CONTROL Signal | |
|---|---|---|---|
| | | CONTROL | ⇨ |
| Y | ➡ | A/D REF | ➤ |
| CHROMA | ➡ | KEY PULSE | ➤➤ |
| Y/CHROMA | ➡➡ | SC | ➤ |
| R−Y | ⇨ | CLK | ➤➤➤ |
| B−Y | ⇨⇨ | BEGIN | ⇨⇨ |
| SYNC | ▷ | INT | ➤ |
| HD | ▷▷ | SIRIAL IN | ➤➤ |
| VD | ▷▷▷ | SIRIAL OUT | ➤➤➤ |
| | | AUDIO Signal | ⇨ |

## TS-124, TS-125 (VIDEO I/O) PRINTED WIRING BOARDS

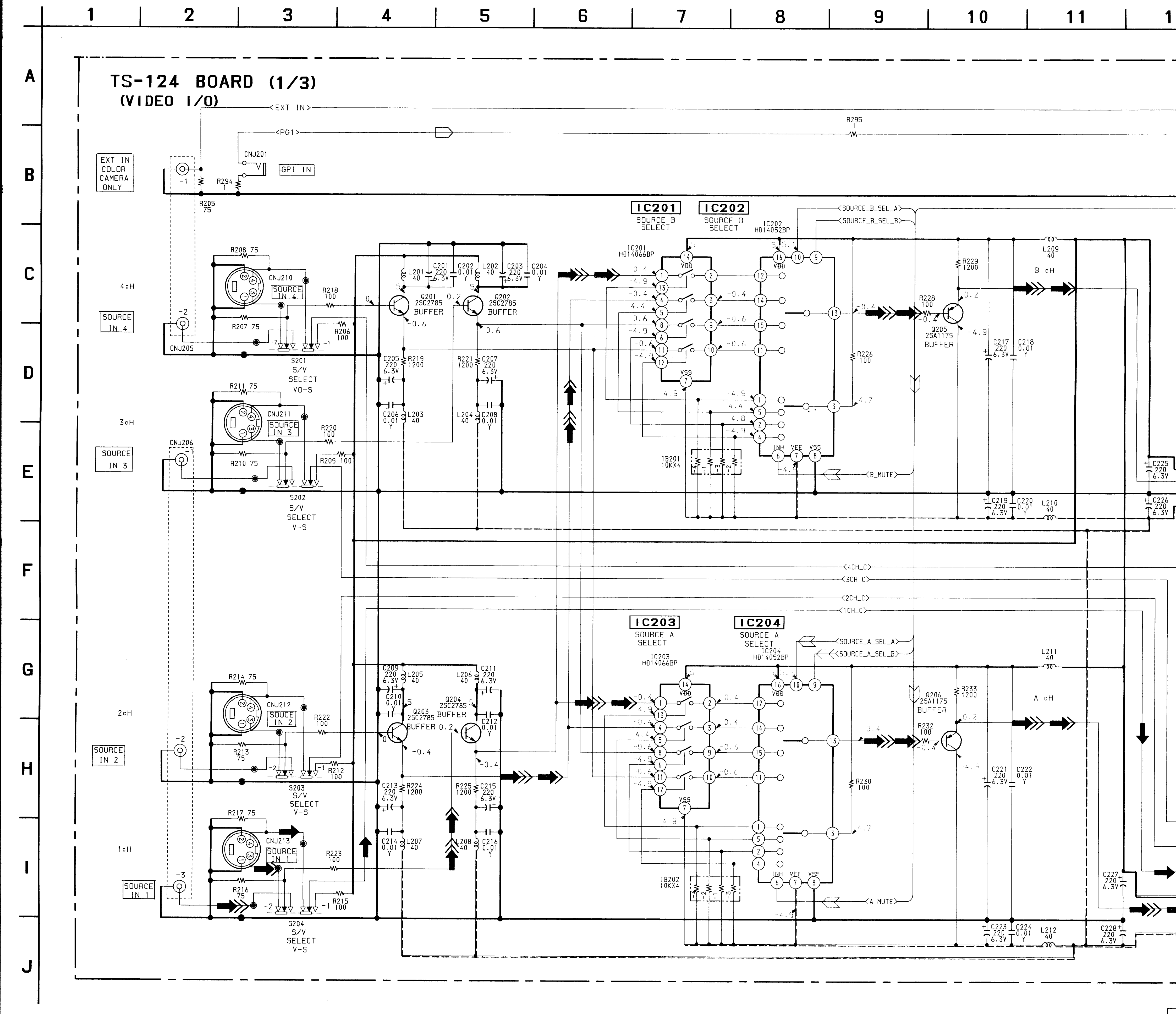
—Ref. No. TS-124 BOARD : 2,000 Series, TS-125 BOARD : 3,000 Series—



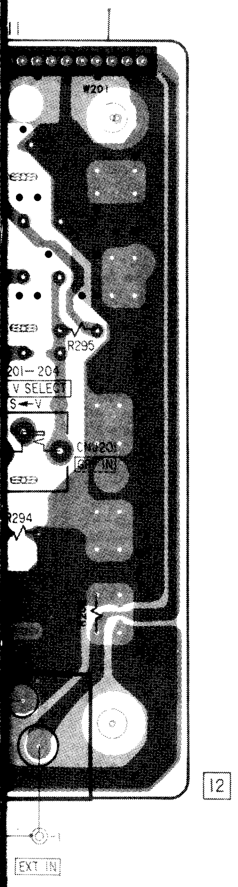
TS-124
DRIVER
VIDEO INPUT SEL
IC201
IC202
IC203
IC204
Q206
TS-124 BOARD
MONITOR OUT
1
2
3
B
FS OUT A
FS OUT B
A
B
PROCESSEDE OUT
SELECT OUT
IB201, 202
1
2
3
4
SOURCE IN
EXT IN
S201~204
S V SELECT

## TS-124, TS-125 (1/3) (VIDEO I/O) SCHEMATIC DIAGRAMS

—Ref. No. TS-124 BOARD : 2,000 Series, TS-125 BOARD : 3,000 Series—



TS-124 BOARD (1/3)
(VIDEO I/O)
<EXT IN>
<PG1>
CNJ201
GPI IN
R295
EXT IN COLOR CAMERA ONLY
R294
R205 75
IC201
IC202
SOURCE B SELECT
IC201 HD14066BP
IC202 HD14052BP
<SOURCE_B_SEL_A>
<SOURCE_B_SEL_B>
4cH
SOURCE IN 4
CNJ210
CNJ205
R208 75
R207 75
R218 100
R206 100
S201 S/V SELECT VO-S
Q201 2SC2785 BUFFER
Q202 2SC2785 BUFFER
Q205 2SA1175 BUFFER
B cH
L209 40
R229 1200
R228 100
R226 100
3cH
SOURCE IN 3
CNJ206
CNJ211
R211 75
R210 75
R220 100
R209 100
S202 S/V SELECT V-S
IB201 10KX4
<B_MUTE>
<4CH_C>
<3CH_C>
<2CH_C>
<1CH_C>
IC203
IC204
SOURCE A SELECT
IC203 HD14066BP
IC204 HD14052BP
<SOURCE_A_SEL_A>
<SOURCE_A_SEL_B>
2cH
SOURCE IN 2
CNJ212
R214 75
R213 75
R222 100
R212 100
S203 S/V SELECT V-S
Q203 2SC2785 BUFFER
Q204 2SC2785 BUFFER
Q206 2SA1175 BUFFER
A cH
L211 40
R233 1200
R232 100
R230 100
1cH
SOURCE IN 1
CNJ213
R217 75
R216 75
R223 100
R215 100
S204 S/V SELECT V-S
IB202 10KX4
<A_MUTE>

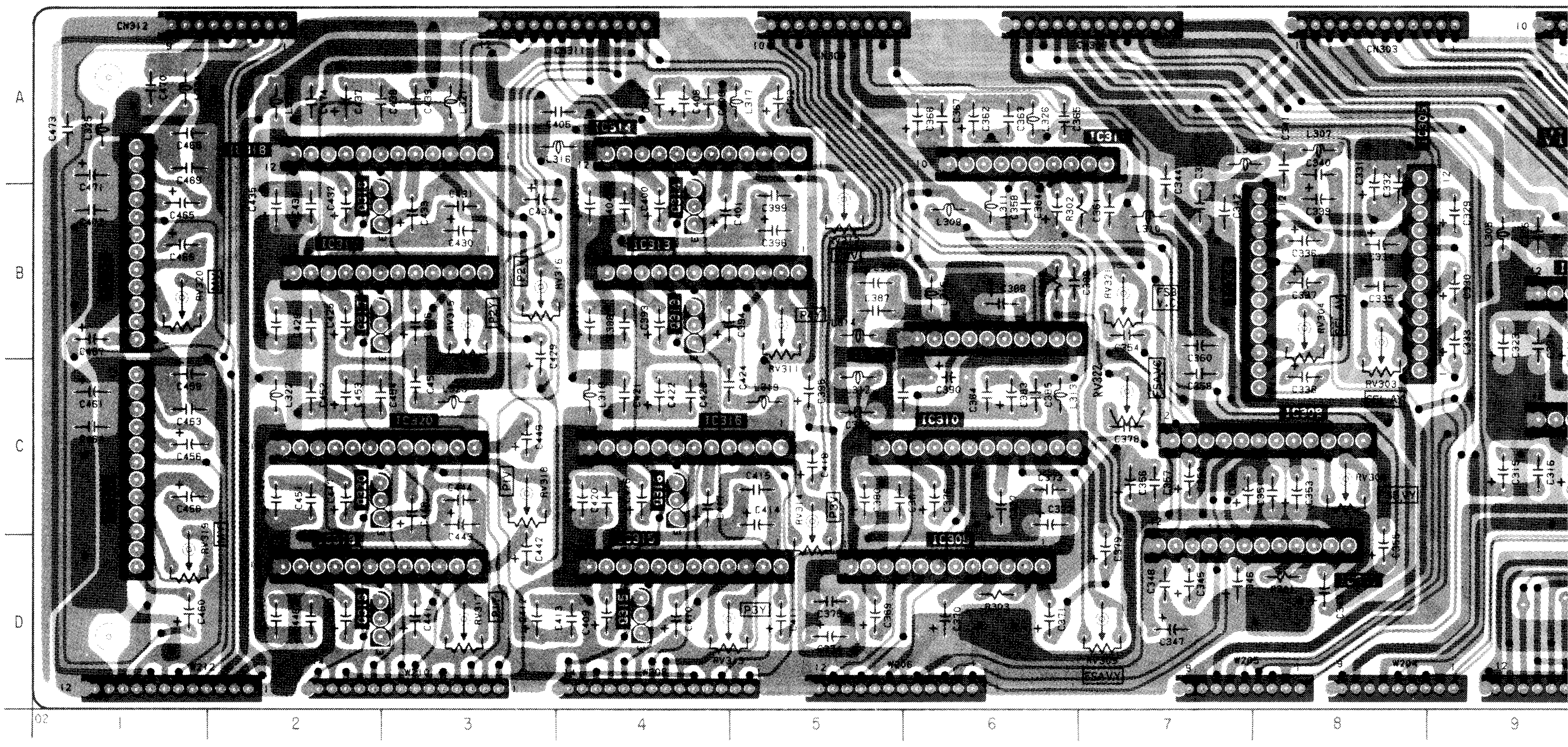


W201
R295
201–204
V SELECT
CN4201
EXT IN
R294
12
EXT IN

**TS-124 BOARD**

| | |
|---|---|
| IC201 | C-8 |
| IC202 | B-8 |
| IC203 | C-8 |
| IC204 | D-8 |
| IC205 | B-7 |
| IC206 | B-6 |
| IC207 | B-4 |
| IC208 | B-3 |
| IC209 | B-3 |
| IC210 | B-2 |
| IC211 | C-1 |
| Q201 | B-10 |
| Q202 | B-10 |
| Q203 | B-9 |
| Q204 | B-8 |
| Q205 | B-7 |
| Q206 | D-8 |
| Q209 | B-4 |
| Q210 | B-3 |
| Q211 | B-2 |
| Q212 | B-2 |

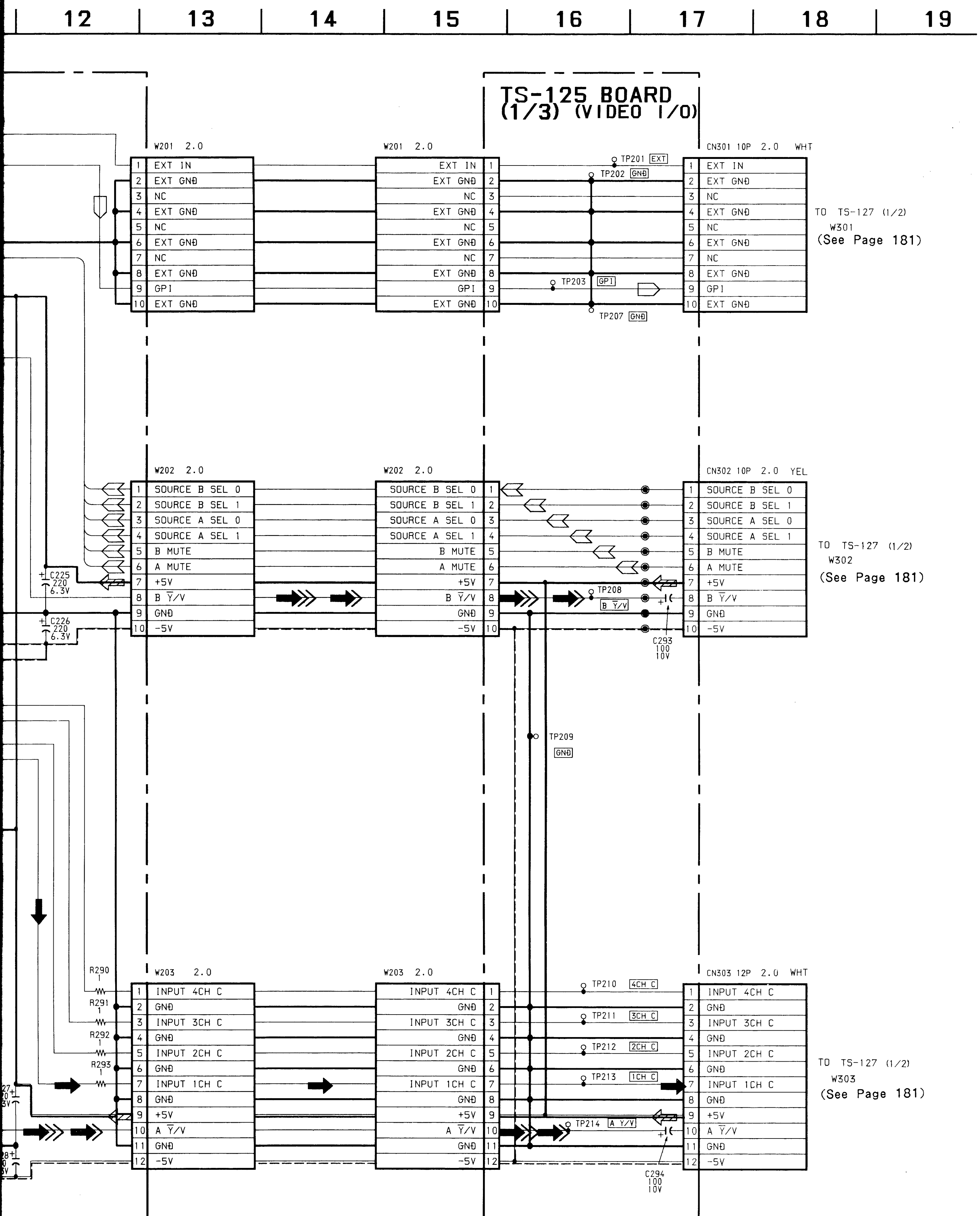
TS-125 BOARD



A
B
C
D
CN312
CN303
IC314
IC313
IC311
IC320
IC315
IC310
IC309
IC308
IC306
IC307
IC304
IC305
02
1
2
3
4
5
6
7
8
9

For prin

When
ence
board



12
13
14
15
16
17
18
19
TS-125 BOARD
(1/3) (VIDEO I/O)
W201 2.0
CN301 10P 2.0 WHT
EXT IN
EXT GND
NC
GPI
TP201 EXT
TP202 GND
TP203 GPI
TP207 GND
TO TS-127 (1/2)
W301
(See Page 181)
W202 2.0
CN302 10P 2.0 YEL
SOURCE B SEL 0
SOURCE B SEL 1
SOURCE A SEL 0
SOURCE A SEL 1
B MUTE
A MUTE
+5V
B Y/V
GND
-5V
TP208 B Y/V
C225 220 6.3V
C226 220 6.3V
C293 100 10V
TO TS-127 (1/2)
W302
(See Page 181)
TP209 GND
W203 2.0
CN303 12P 2.0 WHT
INPUT 4CH C
INPUT 3CH C
INPUT 2CH C
INPUT 1CH C
A Y/V
R290 1
R291 1
R292 1
R293 1
TP210 4CH C
TP211 3CH C
TP212 2CH C
TP213 1CH C
TP214 A Y/V
C294 100 10V
TO TS-127 (1/2)
W303
(See Page 181)

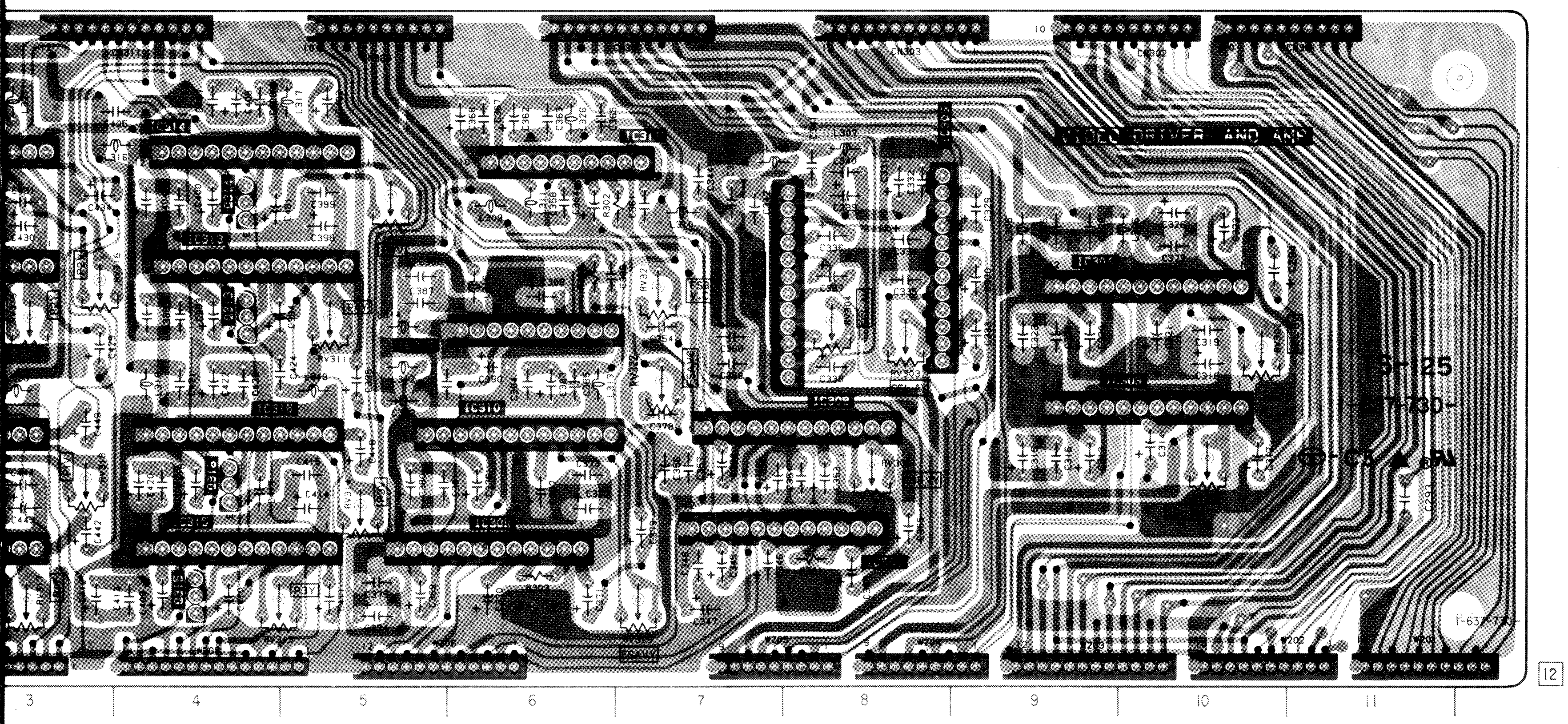
• Signal path

SOURCE Signal

| | |
|---|---|
| Y | ➡ |
| CHROMA | ➡ |
| Y/CHROMA | ➡ |
| R−Y | ⇨ |
| B−Y | ⇨ |
| SYNC | ▷ |
| HD | ▷ |
| VD | ▷ |

CONTROL Signal

| | |
|---|---|
| CONTROL | ▷ |
| A/D REF | ▶ |
| KEY PULSE | ▶ |
| SC | ▶ |
| CLK | ▶ |
| BEGIN | ▷ |
| INT | ▶ |
| SIRIAL IN | ▶ |
| SIRIAL OUT | ▶ |
| AUDIO Signal | ⇨ |



VIDEO DRIVER AND AMP
TS-125
1-637-730-
3
4
5
6
7
8
9
10
11
12

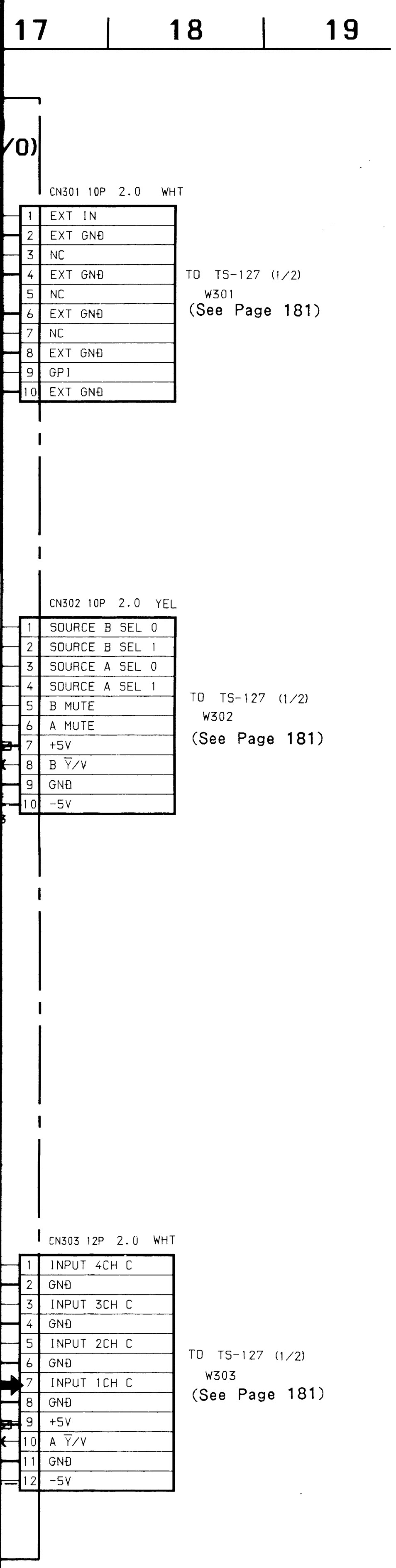
## TS-125 BOARD

| | |
|---|---|
| IC303 | D-9 |
| IC304 | B-9 |
| IC305 | B-8 |
| IC306 | B-8 |
| IC307 | D-8 |
| IC308 | C-8 |
| IC309 | D-9 |
| IC310 | C-6 |
| IC311 | A-6 |
| IC312 | B-6 |
| IC313 | B-4 |
| IC314 | A-4 |
| IC315 | D-4 |
| IC316 | C-4 |
| IC317 | B-2 |
| IC318 | A-2 |
| IC319 | D-2 |
| IC320 | D-3 |
| IC321 | C-1 |
| IC322 | B-1 |
| Q313 | B-4 |
| Q314 | B-4 |
| Q315 | D-4 |
| Q316 | C-4 |
| Q317 | B-2 |
| Q318 | B-2 |
| Q319 | D-2 |
| Q320 | C-2 |

For printed wiring boards :

- ○— : indicates a lead wire mounted on the componet side.
- ●— : indicates a lead wire mounted on the printed side.
- ● : Through hole.
- ▨ : Pattern from the side which enables seeing.
- ░ : Pattern of the rear side.

When indicating parts by reference number, please include the board name.



17
18
19
/0)
CN301 10P 2.0 WHT
1 EXT IN
2 EXT GND
3 NC
4 EXT GND
5 NC
6 EXT GND
7 NC
8 EXT GND
9 GPI
10 EXT GND
TO TS-127 (1/2) W301
(See Page 181)
CN302 10P 2.0 YEL
1 SOURCE B SEL 0
2 SOURCE B SEL 1
3 SOURCE A SEL 0
4 SOURCE A SEL 1
5 B MUTE
6 A MUTE
7 +5V
8 B Y/V
9 GND
10 -5V
TO TS-127 (1/2) W302
(See Page 181)
CN303 12P 2.0 WHT
1 INPUT 4CH C
2 GND
3 INPUT 3CH C
4 GND
5 INPUT 2CH C
6 GND
7 INPUT 1CH C
8 GND
9 +5V
10 A Y/V
11 GND
12 -5V
TO TS-127 (1/2) W303
(See Page 181)

- Signal path

SOURCE Signal

| | |
|---|---|
| Y | ➡» |
| CHROMA | ➡ |
| Y/CHROMA | ➡»» |
| R−Y | ⇨ |
| B−Y | ⇨» |
| SYNC | ▷ |
| HD | ▷» |
| VD | ▷»» |

CONTROL Signal

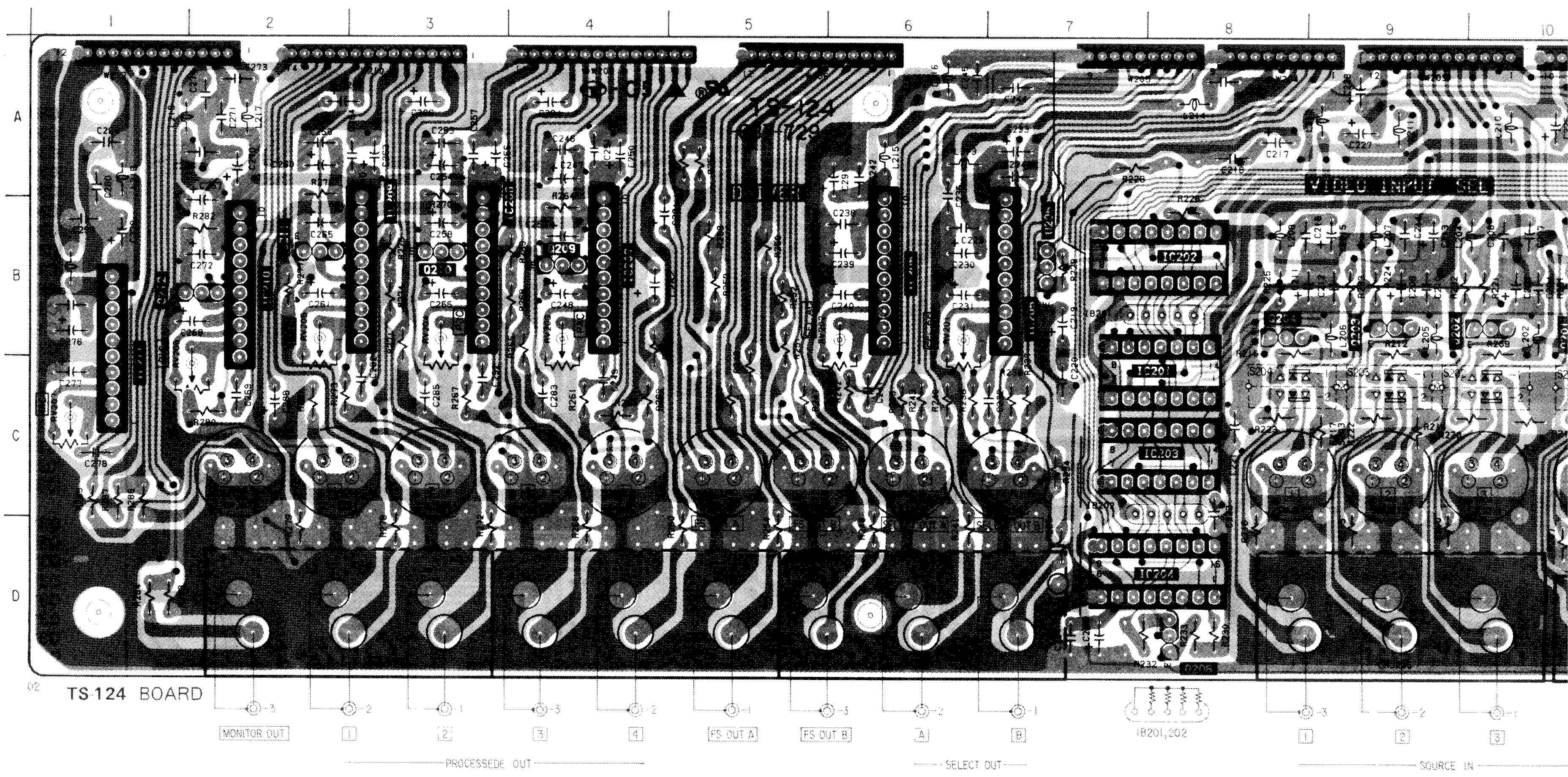
| | |
|---|---|
| CONTROL | ▷ |
| A/D REF | ▶ |
| KEY PULSE | ▶» |
| SC | ▶ |
| CLK | ▶»» |
| BEGIN | ▷» |
| INT | ▶ |
| SIRIAL IN | ▶» |
| SIRIAL OUT | ▶»» |
| AUDIO Signal | ⇨ |

# TS-124, TS-125 (VIDEO I/O) PRINTED WIRING BOARDS

—Ref. No. TS-124 BOARD : 2,000 Series, TS-125 BOARD : 3,000 Series—

## TS-124 BOARD

| | |
|---|---|
| IC201 | C-8 |
| IC202 | B-8 |
| IC203 | C-8 |
| IC204 | D-8 |
| IC205 | B-7 |
| IC206 | B-6 |
| IC207 | B-4 |
| IC208 | B-3 |
| IC209 | B-3 |
| IC210 | B-2 |
| IC211 | C-1 |
| Q201 | B-10 |
| Q202 | B-10 |
| Q203 | B-9 |
| Q204 | B-8 |
| Q205 | B-7 |
| Q206 | D-8 |
| Q209 | B-4 |
| Q210 | B-3 |
| Q211 | B-2 |
| Q212 | B-2 |

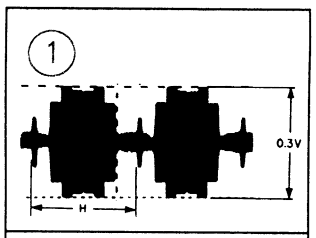

1
2
3
4
5
6
7
8
9
10
A
B
C
D
TS-124
VIDEO INPUT SEL
IC202
IC203
IC204
TS 124 BOARD
MONITOR OUT
1
2
3
4
FS OUT A
FS OUT B
A
B
IB201, 202
1
2
3
PROCESSEDE OUT
SELECT OUT
SOURCE IN

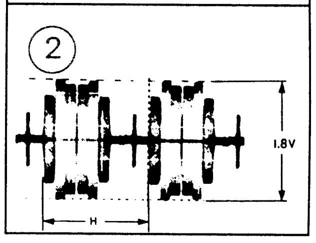
For printed wiring boards :

- o— : indicates a lead wire mounted on the componet side.
- •— : indicates a lead wire mounted on the printed side.
- ● : Through hole.
- ▩ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

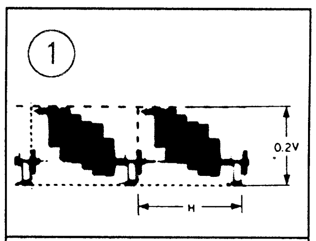
When indicating parts by reference number, please include the board name.

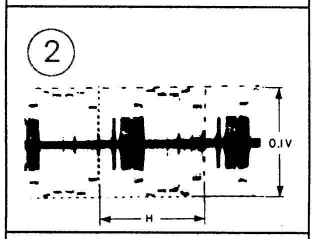
## TS-124 BOARD (2/3)

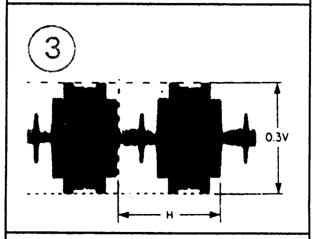


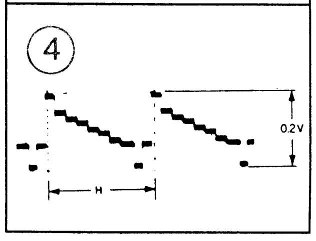


## TS-125 BOARD (2/3)



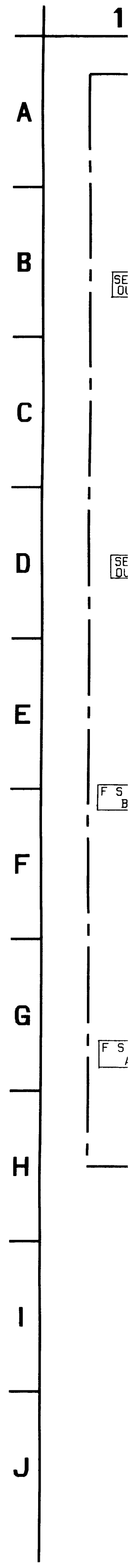


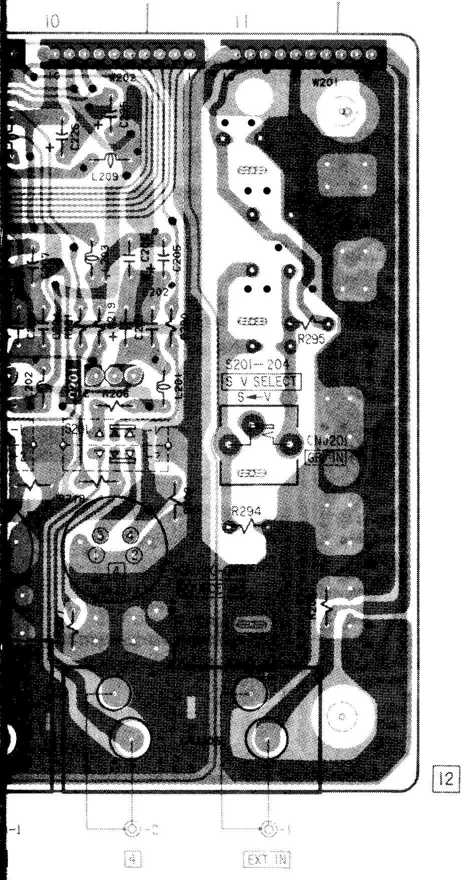




TS-124,

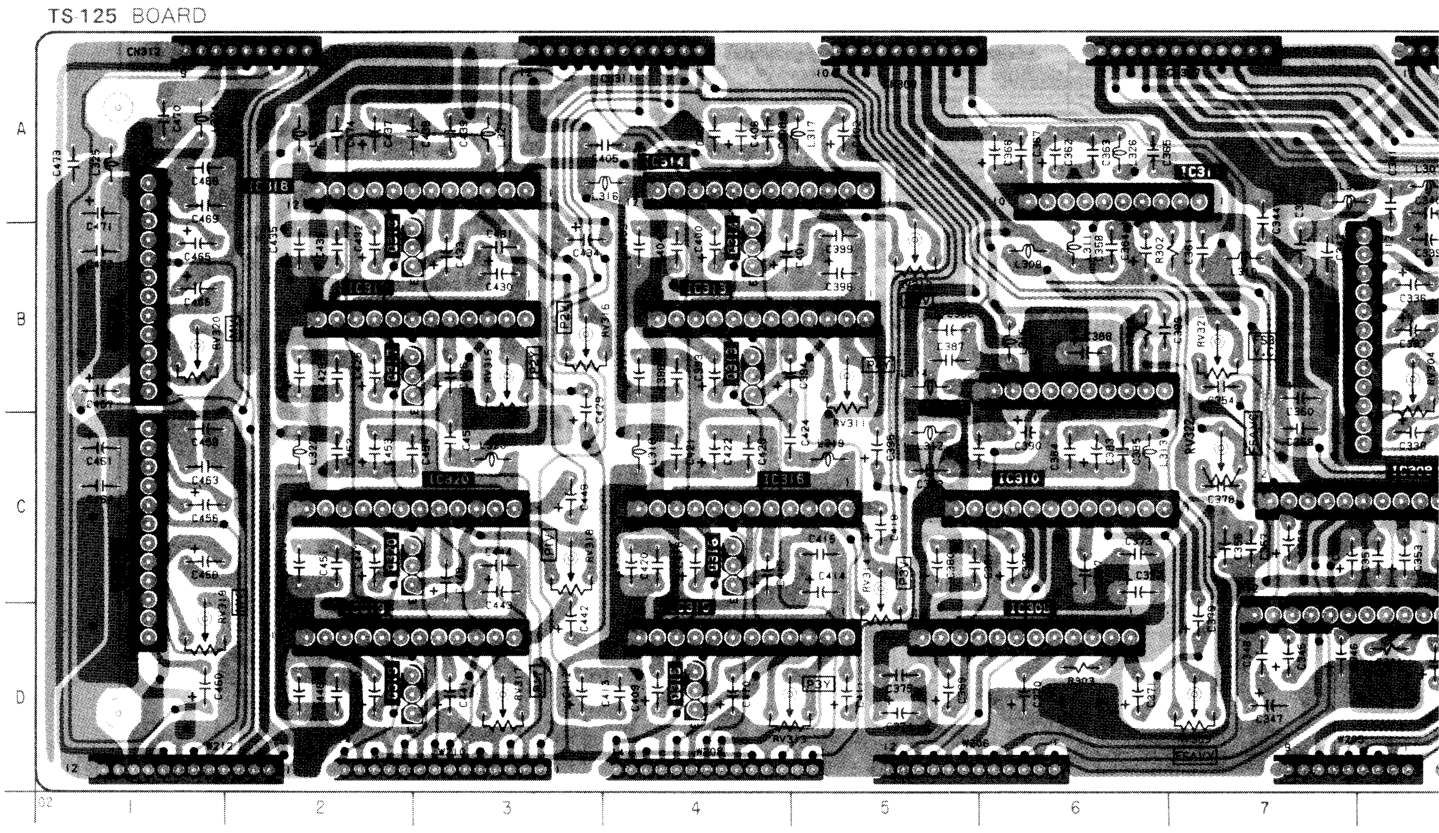
—Ref. Nc


1
A
B
C
D
E
F
G
H
I
J


10
11
W202
W201
C209
R295
S201-204
S V SELECT
S⟷V
CN201
R294
12
4
EXT IN

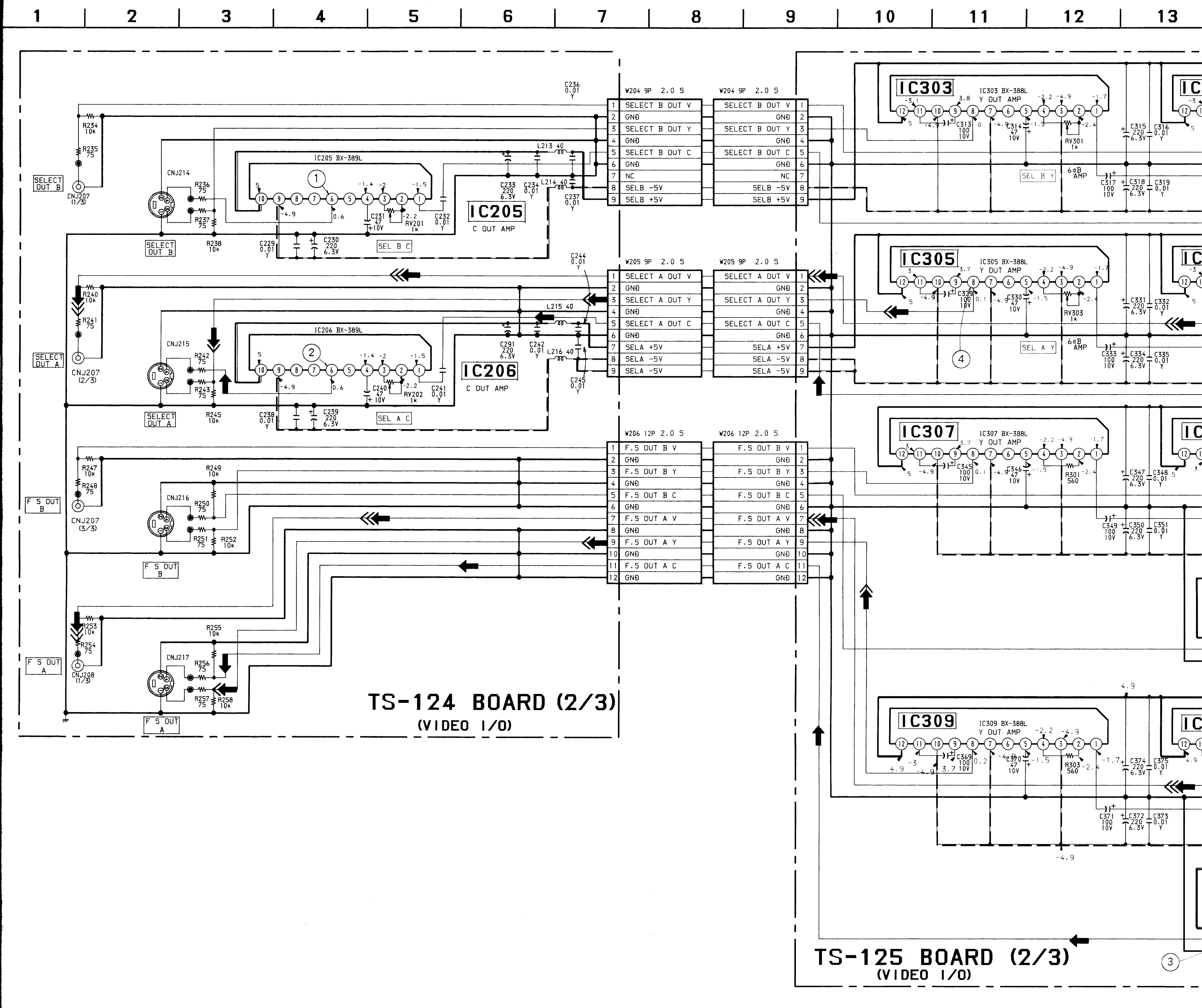
TS-125 BOARD

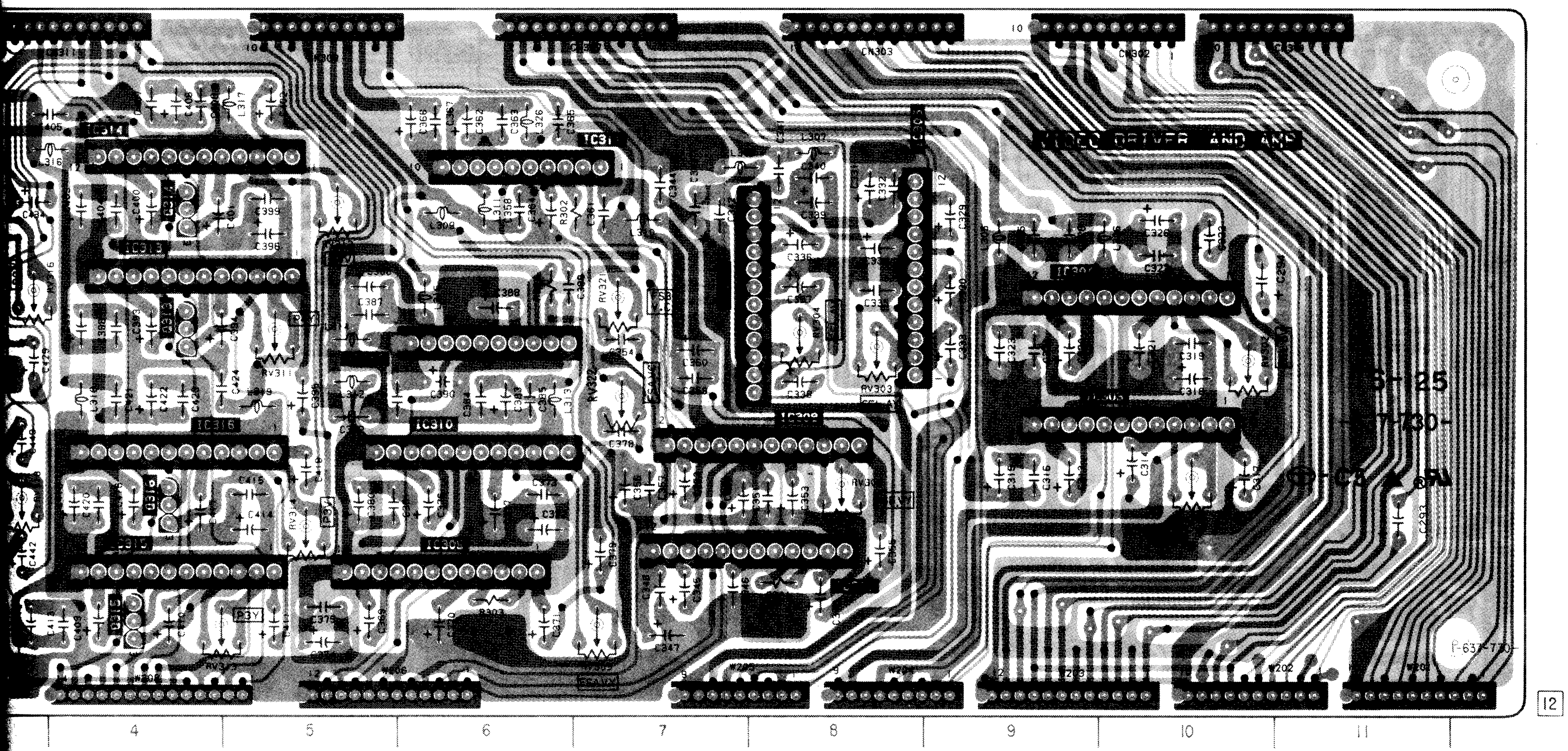
| | |
|---|---|
| IC303 | D-9 |
| IC304 | B-9 |
| IC305 | B-8 |
| IC306 | B-8 |
| IC307 | D-8 |
| IC308 | C-8 |
| IC309 | D-9 |
| IC310 | C-6 |
| IC311 | A-6 |
| IC312 | B-6 |
| IC313 | B-4 |
| IC314 | A-4 |
| IC315 | D-4 |
| IC316 | C-4 |
| IC317 | B-2 |
| IC318 | A-2 |
| IC319 | D-2 |
| IC320 | D-3 |
| IC321 | C-1 |
| IC322 | B-1 |
| | |
| Q313 | B-4 |
| Q314 | B-4 |
| Q315 | D-4 |
| Q316 | C-4 |
| Q317 | B-2 |
| Q318 | B-2 |
| Q319 | D-2 |
| Q320 | C-2 |

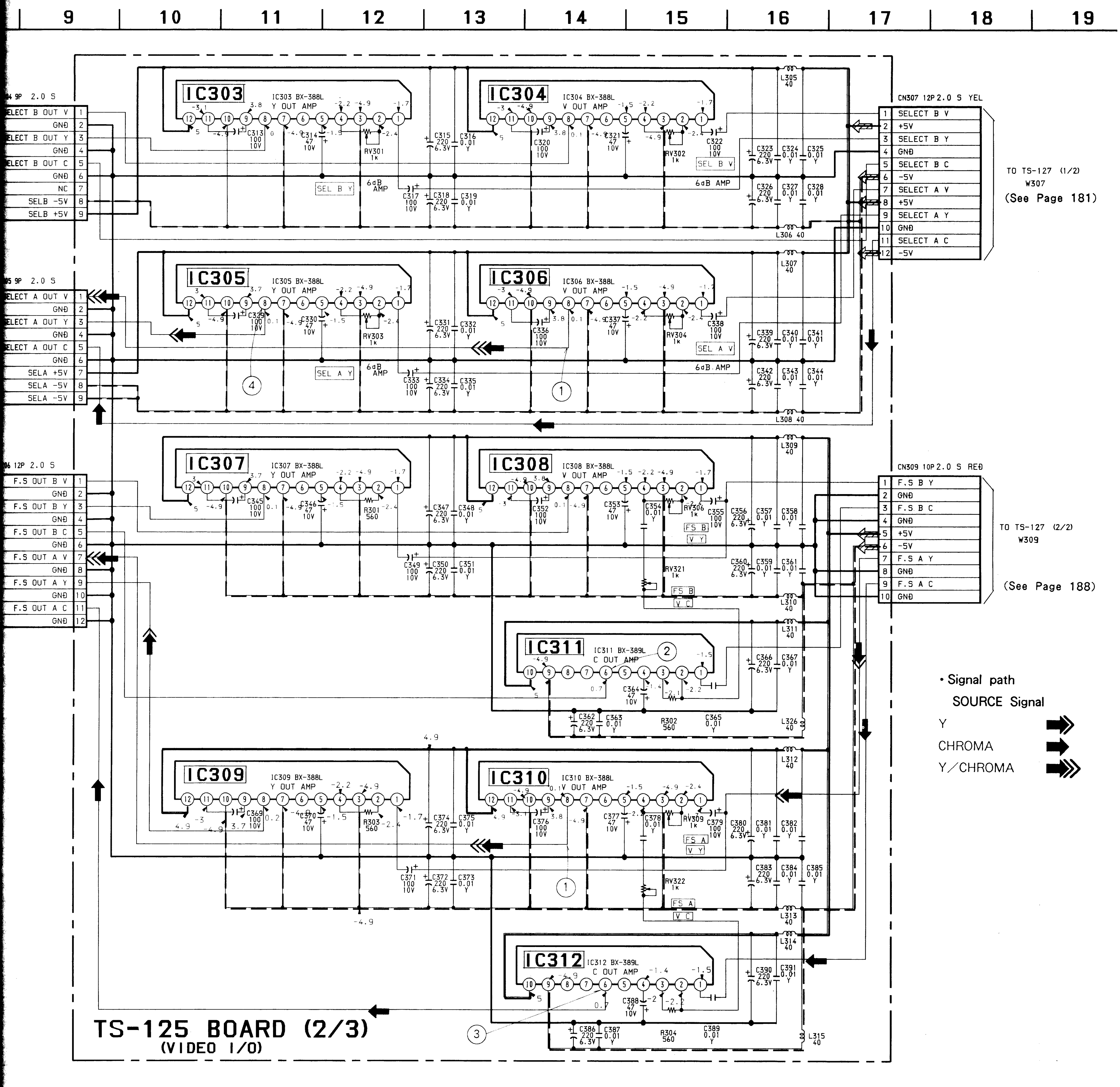

TS-125 BOARD
CN312
A
B
C
D
IC318
IC313
IC314
IC320
IC316
IC310
IC306
1
2
3
4
5
6
7

## -124, TS-125 (2/3) (VIDEO I/O) SCHEMATIC DIAGRAMS

ef. No. TS-124 BOARD : 2,000 Series, TS-125 BOARD : 3,000 Series—


1
2
3
4
5
6
7
8
9
10
11
12
13
W204 9P 2.0 S
SELECT B OUT V
GND
SELECT B OUT Y
SELECT B OUT C
NC
SELB -5V
SELB +5V
W205 9P 2.0 S
SELECT A OUT V
SELECT A OUT Y
SELECT A OUT C
SELA +5V
SELA -5V
W206 12P 2.0 S
F.S OUT B V
F.S OUT B Y
F.S OUT B C
F.S OUT A V
F.S OUT A Y
F.S OUT A C
IC205 BX-389L
IC205
C OUT AMP
IC206 BX-389L
IC206
C OUT AMP
SEL B C
SEL A C
SELECT OUT B
SELECT OUT A
F S OUT B
F S OUT A
CNJ207 (1/3)
CNJ207 (2/3)
CNJ207 (3/3)
CNJ208 (1/3)
CNJ214
CNJ215
CNJ216
CNJ217
IC303
IC303 BX-388L Y OUT AMP
IC305
IC305 BX-388L Y OUT AMP
IC307
IC307 BX-388L Y OUT AMP
IC309
IC309 BX-388L Y OUT AMP
SEL B Y
SEL A Y
6dB AMP
RV301 1k
RV303 1k
R301 560
R303 560
TS-124 BOARD (2/3)
(VIDEO I/O)
TS-125 BOARD (2/3)
(VIDEO I/O)
①
②
③
④

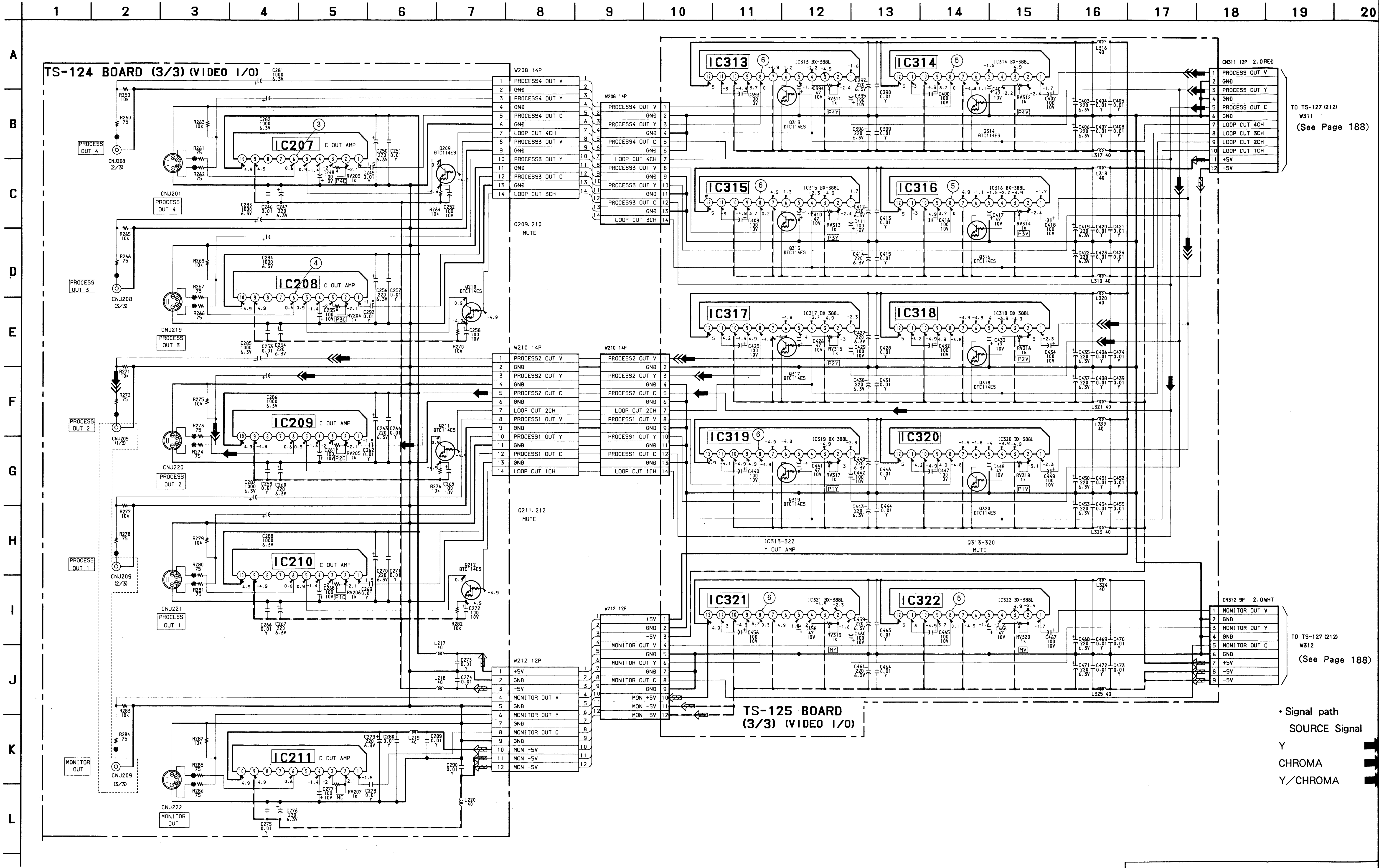

VIDEO DRIVER AND AMP
IC303
IC304
IC305
IC306
IC307
IC308
IC309
IC310
IC311
IC312
CN303
CN307
CN309
TS-125
1-631-730-
12
4
5
6
7
8
9
10
11


9
10
11
12
13
14
15
16
17
18
19
IC303
IC303 BX-388L
Y OUT AMP
IC304
IC304 BX-388L
V OUT AMP
IC305
IC305 BX-388L
Y OUT AMP
IC306
IC306 BX-388L
V OUT AMP
IC307
IC307 BX-388L
Y OUT AMP
IC308
IC308 BX-388L
V OUT AMP
IC309
IC309 BX-388L
Y OUT AMP
IC310
IC310 BX-388L
V OUT AMP
IC311
IC311 BX-389L
C OUT AMP
IC312
IC312 BX-389L
C OUT AMP
6dB AMP
SEL B Y
SEL B V
SEL A Y
SEL A V
FS B
FS A
V Y
V C
RV301 1k
RV302 1k
RV303 1k
RV304 1k
RV306 1k
RV309 1k
RV321 1k
RV322 1k
R301 560
R302 560
R303 560
R304 560
L305 40
L306 40
L307 40
L308 40
L309 40
L310 40
L311 40
L312 40
L313 40
L314 40
L315 40
L326 40
9P 2.0 S
SELECT B OUT V
GND
SELECT B OUT Y
SELECT B OUT C
NC
SELB -5V
SELB +5V
9P 2.0 S
SELECT A OUT V
SELECT A OUT Y
SELECT A OUT C
SELA +5V
SELA -5V
12P 2.0 S
F.S OUT B V
F.S OUT B Y
F.S OUT B C
F.S OUT A V
F.S OUT A Y
F.S OUT A C
CN307 12P 2.0 S YEL
1 SELECT B V
2 +5V
3 SELECT B Y
4 GND
5 SELECT B C
6 -5V
7 SELECT A V
8 +5V
9 SELECT A Y
10 GND
11 SELECT A C
12 -5V
TO TS-127 (1/2)
W307
(See Page 181)
CN309 10P 2.0 S RED
1 F.S B Y
2 GND
3 F.S B C
4 GND
5 +5V
6 -5V
7 F.S A Y
8 GND
9 F.S A C
10 GND
TO TS-127 (2/2)
W309
(See Page 188)
①
②
③
④
• Signal path
SOURCE Signal
Y ➡
CHROMA ➡
Y/CHROMA ➡

## TS-125 BOARD (2/3)
### (VIDEO I/O)

## TS-124, TS-125 (3/3) (VIDEO I/O) SCHEMATIC DIAGRAMS

—Ref. No. TS-124 BOARD : 2,000 Series, TS-125 BOARD : 3,000 Series—


1
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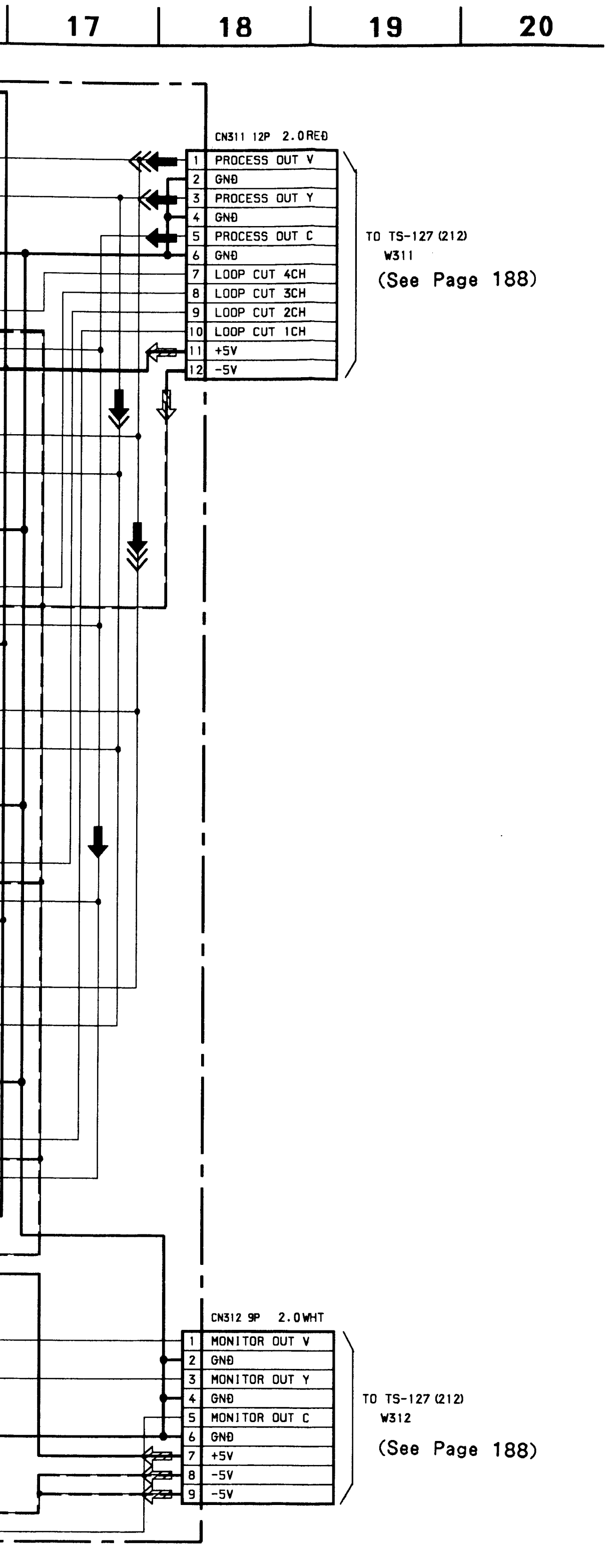
16
17
18
19
20
A
B
C
D
E
F
G
H
I
J
K
L
TS-124 BOARD (3/3) (VIDEO I/O)
TS-125 BOARD (3/3) (VIDEO I/O)
IC207 C OUT AMP
IC208 C OUT AMP
IC209 C OUT AMP
IC210 C OUT AMP
IC211 C OUT AMP
IC313
IC314
IC315
IC316
IC317
IC318
IC319
IC320
IC321
IC322
IC313 BX-388L
IC314 BX-388L
IC315 BX-388L
IC316 BX-388L
IC317 BX-388L
IC318 BX-388L
IC319 BX-388L
IC320 BX-388L
IC321 BX-388L
IC322 BX-388L
IC313-322 Y OUT AMP
Q313-320 MUTE
Q209, 210 MUTE
Q211, 212 MUTE
Q209 8TC114ES
Q210 8TC114ES
Q211 8TC114ES
Q212 8TC114ES
PROCESS OUT 4
PROCESS OUT 3
PROCESS OUT 2
PROCESS OUT 1
MONITOR OUT
CNJ201 PROCESS OUT 4
CNJ219 PROCESS OUT 3
CNJ220 PROCESS OUT 2
CNJ221 PROCESS OUT 1
CNJ222 MONITOR OUT
CNJ208 (2/3)
CNJ208 (3/3)
CNJ209 (1/3)
CNJ209 (2/3)
CNJ209 (3/3)
W208 14P
1 PROCESS4 OUT V
2 GND
3 PROCESS4 OUT Y
4 GND
5 PROCESS4 OUT C
6 GND
7 LOOP CUT 4CH
8 PROCESS3 OUT V
9 GND
10 PROCESS3 OUT Y
11 GND
12 PROCESS3 OUT C
13 GND
14 LOOP CUT 3CH
W210 14P
1 PROCESS2 OUT V
2 GND
3 PROCESS2 OUT Y
4 GND
5 PROCESS2 OUT C
6 GND
7 LOOP CUT 2CH
8 PROCESS1 OUT V
9 GND
10 PROCESS1 OUT Y
11 GND
12 PROCESS1 OUT C
13 GND
14 LOOP CUT 1CH
W212 12P
1 +5V
2 GND
3 -5V
4 MONITOR OUT V
5 GND
6 MONITOR OUT Y
7 GND
8 MONITOR OUT C
9 GND
10 MON +5V
11 MON -5V
12 MON -5V
CN311 12P 2.0RED
1 PROCESS OUT V
2 GND
3 PROCESS OUT Y
4 GND
5 PROCESS OUT C
6 GND
7 LOOP CUT 4CH
8 LOOP CUT 3CH
9 LOOP CUT 2CH
10 LOOP CUT 1CH
11 +5V
12 -5V
TO TS-127 (2/2) W311
(See Page 188)
CN312 9P 2.0WHT
1 MONITOR OUT V
2 GND
3 MONITOR OUT Y
4 GND
5 MONITOR OUT C
6 GND
7 +5V
8 -5V
9 -5V
TO TS-127 (2/2) W312
(See Page 188)
L217 40
L218 40
L219 40
L220 40
L316 40
L317 40
L318 40
L319 40
L320 40
L321 40
L322 40
L323 40
L324 40
L325 40
P4C
P3C
P2C
P1C
MC
P4Y
P4V
P3Y
P3V
P2Y
P2V
P1Y
P1V
MY
MV
• Signal path
SOURCE Signal
Y
CHROMA
Y/CHROMA

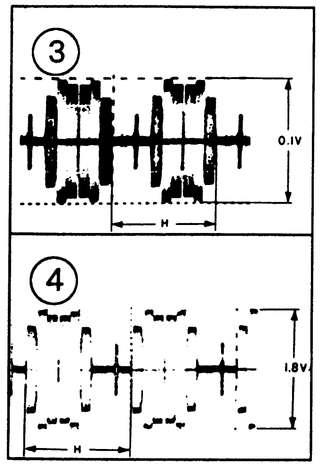

17
18
19
20
CN311 12P 2.0RED
1 PROCESS OUT V
2 GND
3 PROCESS OUT Y
4 GND
5 PROCESS OUT C
6 GND
7 LOOP CUT 4CH
8 LOOP CUT 3CH
9 LOOP CUT 2CH
10 LOOP CUT 1CH
11 +5V
12 -5V
TO TS-127 (212)
W311
(See Page 188)
CN312 9P 2.0WHT
1 MONITOR OUT V
2 GND
3 MONITOR OUT Y
4 GND
5 MONITOR OUT C
6 GND
7 +5V
8 -5V
9 -5V
TO TS-127 (212)
W312
(See Page 188)

- Signal path

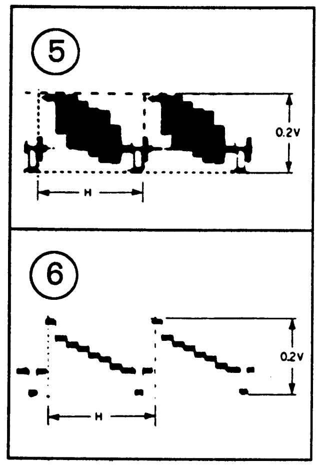
SOURCE Signal

| | |
|---|---|
| Y | ➡ |
| CHROMA | ➡ |
| Y/CHROMA | ➡ |

## TS-124 BOARD (3/3)



## TS-125 BOARD (3/3)



When indicating parts by reference number, please include the board name.

< DIODE >

| | | | |
|---|---|---|---|
| D181 | 8-719-800-76 | DIODE | 1SS226 |
| D182 | 8-719-800-76 | DIODE | 1SS226 |
| D201 | 8-713-300-88 | DIODE | 1T33C-01 |
| D203 | 8-719-104-34 | DIODE | 1S2836 |
| D204 | 8-713-300-88 | DIODE | 1T33C-01 |
| D297 | 8-719-800-76 | DIODE | 1SS226 |
| D298 | 8-719-800-76 | DIODE | 1SS226 |
| D299 | 8-719-800-76 | DIODE | 1SS226 |
| D301 | 8-713-300-88 | DIODE | 1T33C-01 |
| D302 | 8-713-300-88 | DIODE | 1T33C-01 |

< IC >

| | | | |
|---|---|---|---|
| IC101 | 8-759-144-84 | IC | uPC24M05HF |
| IC102 | 8-752-334-55 | IC | CXD1175AM |
| IC103 | 8-752-336-90 | IC | CXD2105Q |
| IC104 | 8-752-039-34 | IC | CXA1208Q |
| IC201 | 8-752-334-55 | IC | CXD1175AM |
| IC202 | 8-752-334-55 | IC | CXD1175AM |
| IC203 | 8-759-987-17 | IC | CXD1226Q |
| IC204 | 8-759-987-20 | IC | CXD1229Q |
| IC205 | 8-759-100-93 | IC | uPC393G2 |
| IC206 | 8-759-233-18 | IC | TC74HC374AF-TP1 |
| IC207 | 8-752-337-41 | IC | CXK1206M |
| IC208 | 8-752-337-41 | IC | CXK1206M |
| IC209 | 8-752-337-41 | IC | CXK1206M |
| IC210 | 8-752-337-41 | IC | CXK1206M |
| IC211 | 8-752-337-41 | IC | CXK1206M |
| IC212 | 8-752-337-41 | IC | CXK1206M |
| IC213 | 8-759-987-19 | IC | CXD1228Q |
| IC214 | 8-759-242-68 | IC | TC7W32F |
| IC215 | 8-759-242-74 | IC | TC7W04F |
| IC217 | 8-759-907-81 | IC | SN74LS221NS |
| IC218 | 8-759-232-32 | IC | TC74HC74AF |
| IC220 | 8-759-032-01 | IC | TC74HC00AF |
| IC230 | 8-759-242-74 | IC | TC7W04F |
| IC301 | 8-759-987-18 | IC | CXD1227Q |
| IC302 | 8-752-334-64 | IC | CXD1171M |
| IC303 | 8-752-334-64 | IC | CXD1171M |
| IC304 | 8-759-987-20 | IC | CXD1229Q |
| IC305 | 8-752-306-51 | IC | CX23065A |
| IC308 | 8-759-242-74 | IC | TC7W04F |
| IC309 | 8-759-242-76 | IC | TC7W08F |
| IC310 | 8-759-242-68 | IC | TC7W32F |
| IC311 | 8-759-233-18 | IC | TC74HC374AF |
| IC312 | 8-759-232-84 | IC | TC74HC175AF |

< TRANSISTOR >

| | | | |
|---|---|---|---|
| Q181 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q182 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q183 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q184 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q185 | 8-729-216-22 | TRANSISTOR | 2SA1162 |
| Q186 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q201 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q202 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q203 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q204 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q205 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q207 | 8-729-216-22 | TRANSISTOR | 2SA1162 |
| Q209 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q210 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q221 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q301 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q302 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q304 | 8-729-100-66 | TRANSISTOR | 2SC1623 |

- MB-45 borad is the printed wiring board which has four layers structure but inner two layers' patterns are omitted.

For printed wiring boards :

- o— : indicates a lead wire mounted on the componet side.
- •— : indicates a lead wire mounted on the printed side.
- ● : Through hole.
- ▓ : Pattern from the side which enables seeing.
- ░ : Pattern of the rear side.

When indicating parts by reference number, please include the board name.

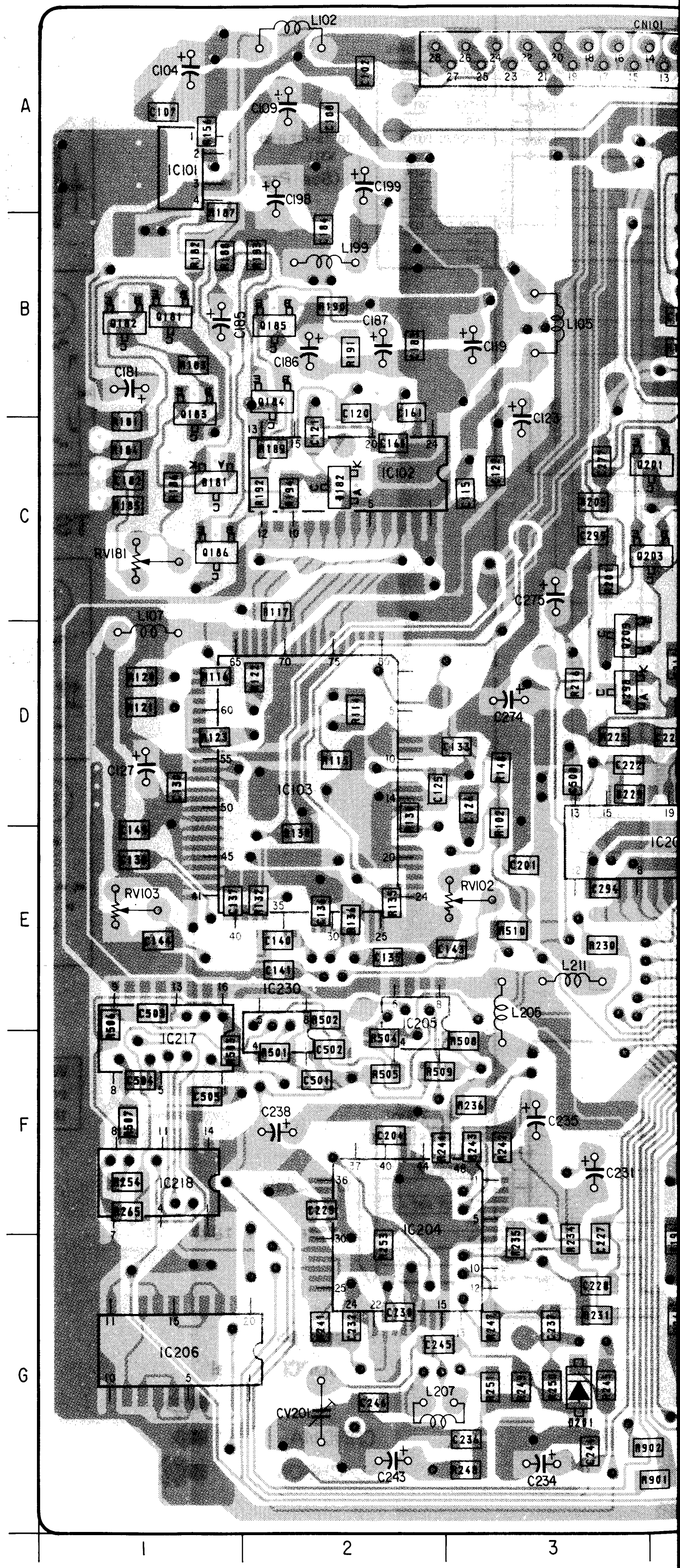
## MB-45 (DIGITAL S. E. G PROCESS) PRINTED WIRING B

—Ref. No. MB-45 BOARD : 9,000 Series—

MB-45 BOARD

| | |
|---|---|
| D181 | C-1 |
| D182 | C-2 |
| D201 | G-3 |
| D203 | E-5 |
| D204 | G-5 |
| D297 | C-5 |
| D298 | D-3 |
| D299 | D-5 |
| D301 | B-11 |
| D302 | G-14 |
| IC101 | A-1 |
| IC102 | C-2 |
| IC103 | D-2 |
| IC104 | B-4 |
| IC201 | D-5 |
| IC202 | E-4 |
| IC203 | F-5 |
| IC204 | G-2 |
| IC205 | F-2 |
| IC206 | G-1 |
| IC207 | G-9 |
| IC208 | E-9 |
| IC209 | C-9 |
| IC210 | G-7 |
| IC211 | E-7 |
| IC212 | C-7 |
| IC213 | F-11 |
| IC214 | B-9 |
| IC215 | B-8 |
| IC217 | F-1 |
| IC218 | F-1 |
| IC220 | B-9 |
| IC230 | F-2 |
| IC301 | D-12 |
| IC302 | B-12 |
| IC303 | G-14 |
| IC304 | F-12 |
| IC308 | D-14 |
| IC309 | D-14 |
| IC310 | C-14 |
| IC311 | G-12 |
| IC312 | B-11 |
| Q181 | B-1 |
| Q182 | B-1 |
| Q183 | C-1 |
| Q184 | B-2 |
| Q185 | B-2 |
| Q186 | C-1 |
| Q201 | C-4 |
| Q202 | C-5 |
| Q203 | C-4 |
| Q204 | C-6 |
| Q205 | B-6 |
| Q207 | D-4 |
| Q209 | D-3 |
| Q210 | C-5 |
| Q221 | G-4 |
| Q301 | A-13 |
| Q302 | A-11 |
| Q304 | D-11 |

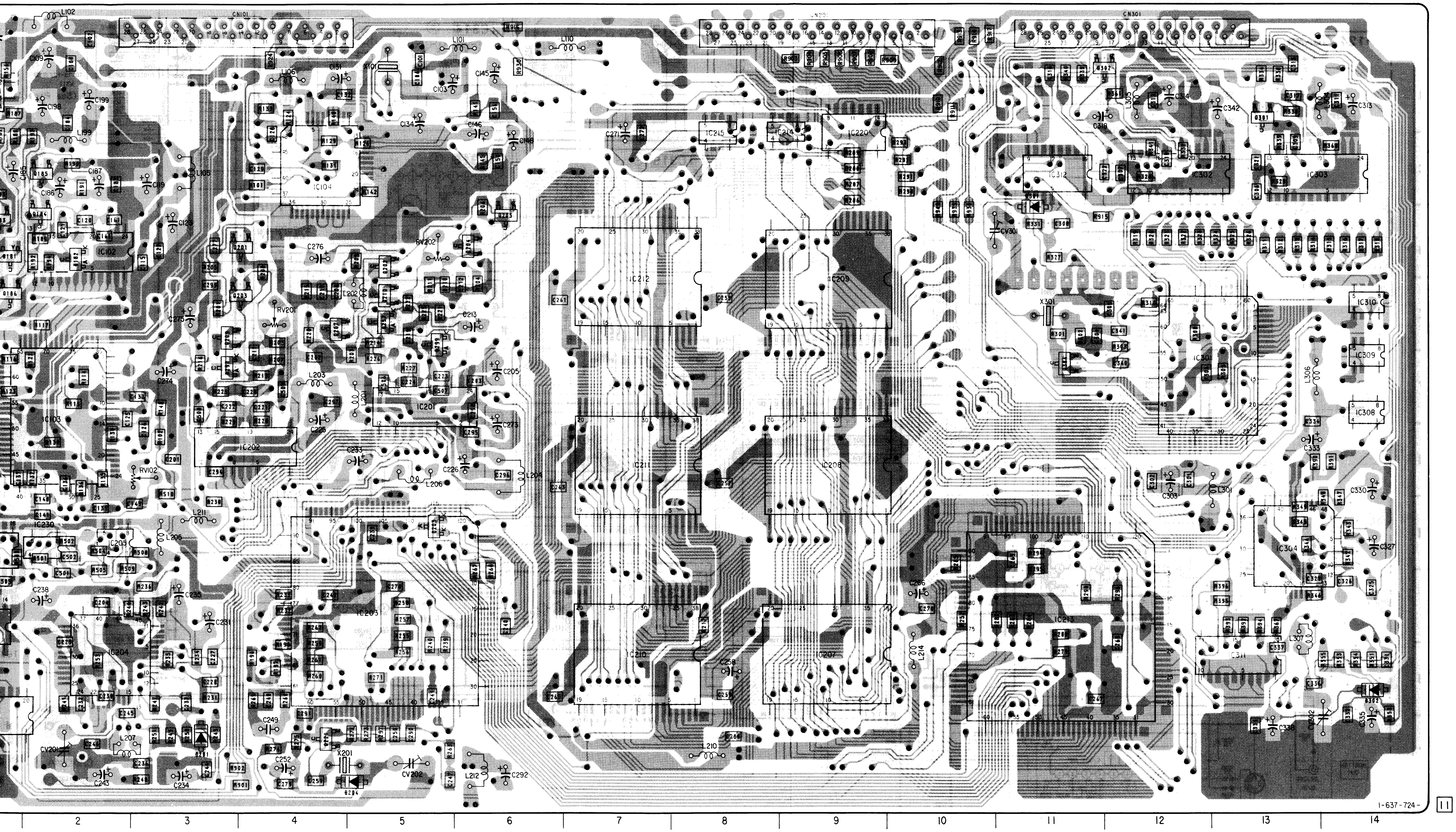
MB-45 BOARD



## AL S. E. G PROCESS) PRINTED WIRING BOARD

S BOARD : 9,000 Series—

D



CN101
CN201
CN301
IC102
IC103
IC104
IC201
IC202
IC203
IC204
IC207
IC208
IC209
IC210
IC211
IC212
IC213
IC214
IC215
IC220
IC230
IC301
IC302
IC303
IC304
IC308
IC309
IC310
IC311
IC312
X101
X201
X301
RV102
RV201
RV202
CV201
CV202
CV301
L101
L102
L105
L106
L110
L199
L201
L202
L203
L204
L205
L206
L207
L210
L211
L212
L214
L301
L306
L307
1-637-724-
11
2
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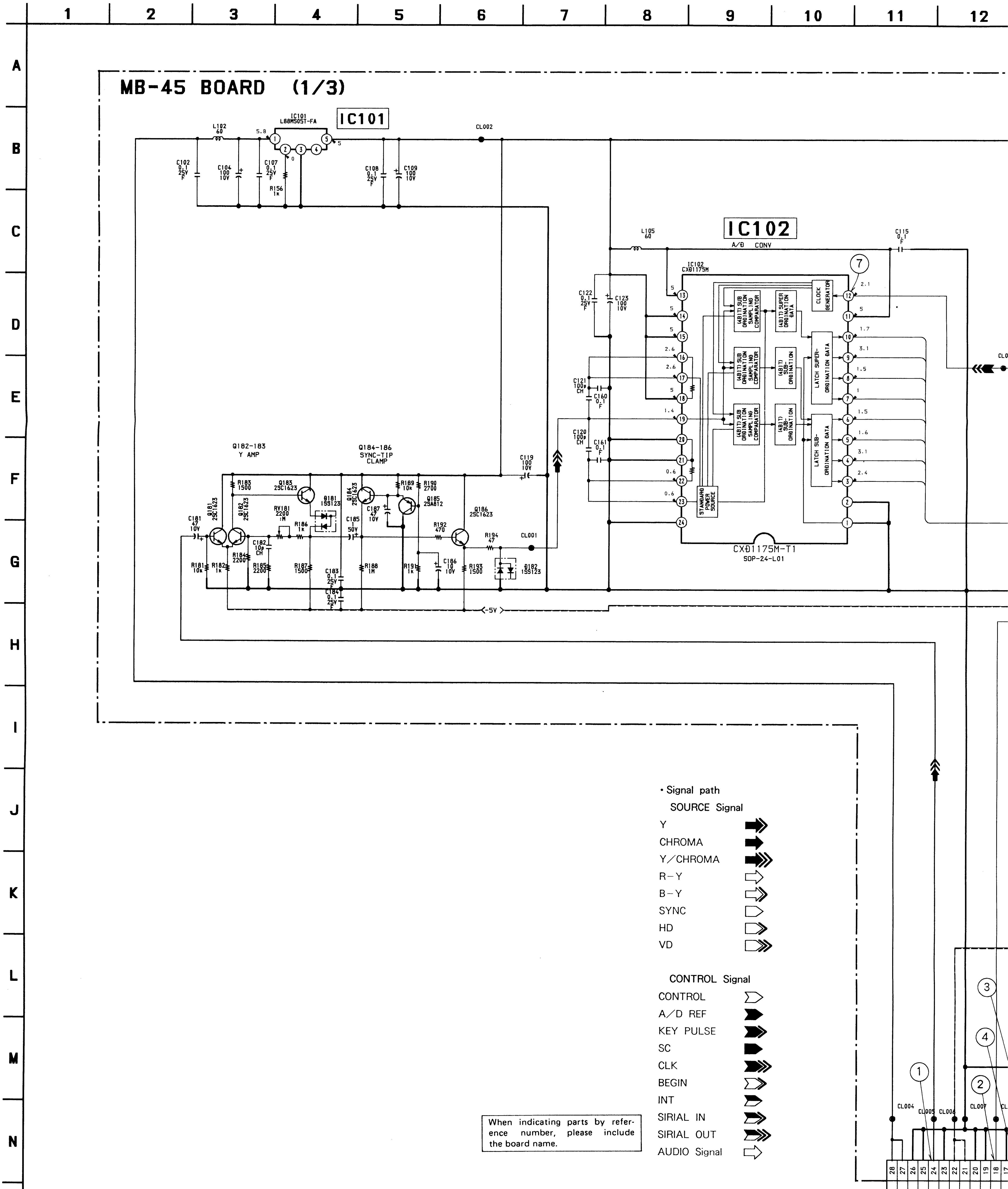
14

## MB-45 (1/3) (DIGITAL S. E. G PROCESS) SCHEMATIC DIAGRAM

—Ref. No. MB-45 BOARD : 9,000 Series—


1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
MB-45 BOARD (1/3)
IC101
IC101 L88M05ST-FA
L102 60
5.8
CL002
C102 0.1 25V F
C104 100 10V
C107 0.1 25V F
R156 1k
C108 0.1 25V F
C109 100 10V
IC102
A/D CONV
IC102 CXD1175M
L105 60
C115 0.1 F
C122 0.1 25V F
C123 100 10V
C121 100p CH
C160 0.1 F
C120 100p CH
C161 0.1 F
CLOCK GENERATOR
(4BIT) SUB ORDINATION SAMPLING COMPARATOR
(4BIT) SUPER ORDINATION DATA
(4BIT) SUB-ORDINATION
LATCH SUPER-ORDINATION DATA
LATCH SUB-ORDINATION DATA
STANDARD POWER SOURCE
CXD1175M-T1
SOP-24-L01
Q182-183 Y AMP
Q184-186 SYNC-TIP CLAMP
Q181 2SC1623
Q182 2SC1623
Q183 2SC1623
Q184 2SC1623
Q185 2SA812
Q186 2SC1623
D181 1SS123
D182 1SS123
RV181 2200 :M
R181 10k
R182 1k
R183 1500
R184 2200
R185 2200
R186 1k
R187 1500
R188 1M
R189 10k
R190 2700
R191 1k
R192 470
R193 1500
R194 47
C181 47 10V
C182 10p CH
C183 0.1 25V F
C184 0.1 25V F
C185 1 50V
C186 10 10V
C187 47 10V
C119 100 10V
CL001
<-5V>
CL004
CL005
CL006
CL007
+6.0V A
+6.0V A
GND (A)
GND (A)
V IN
GND (A)
-5.0V A
-5.0V A
GND (A)
GND (A)
Y OUT
GND (A)
28
27
26
25
24
23
22
21
20
19
18
17

- Signal path

SOURCE Signal

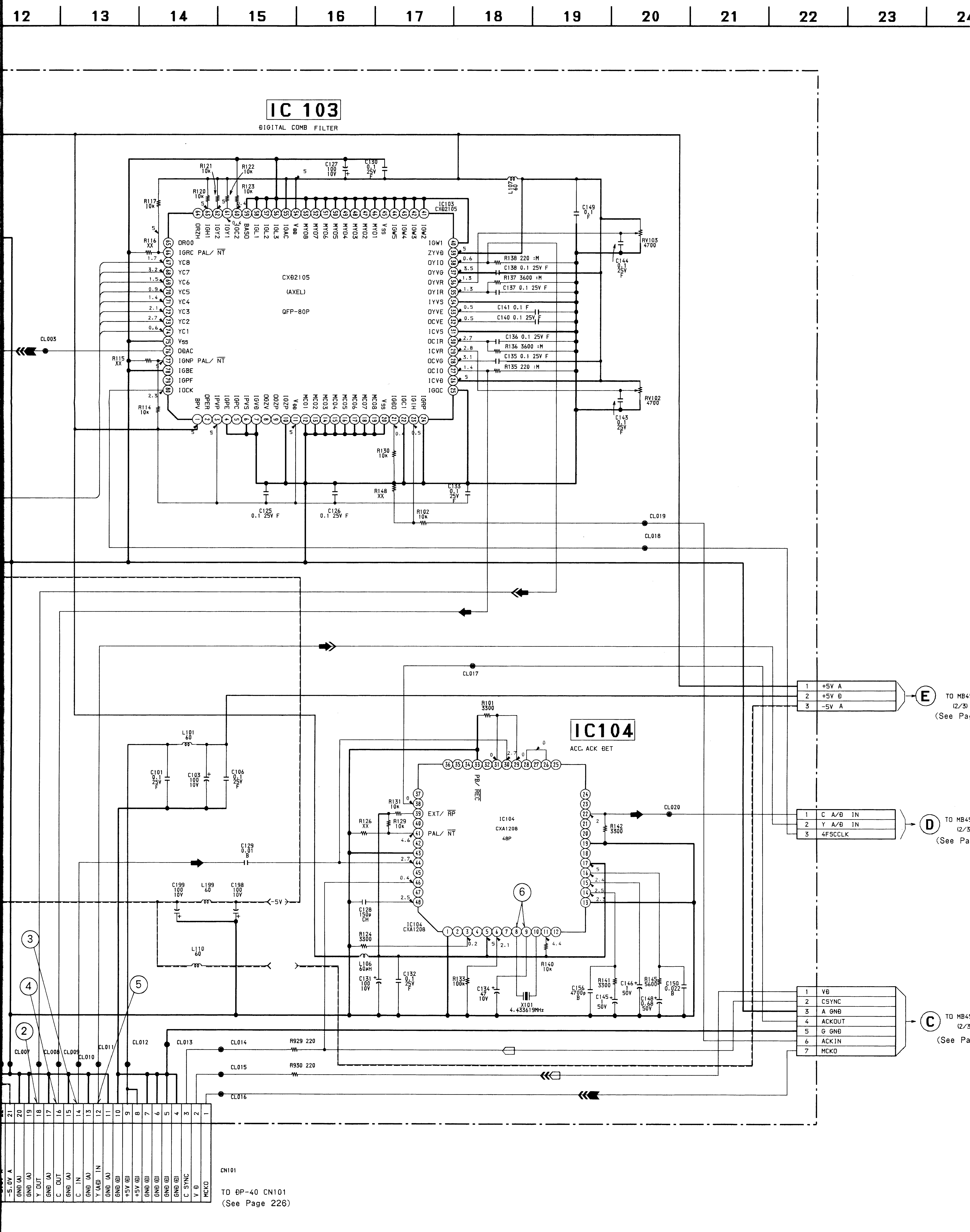
| | |
|---|---|
| Y | ➡ |
| CHROMA | ➡ |
| Y/CHROMA | ➡ |
| R-Y | ⇨ |
| B-Y | ⇨ |
| SYNC | ▷ |
| HD | ▷ |
| VD | ▷ |

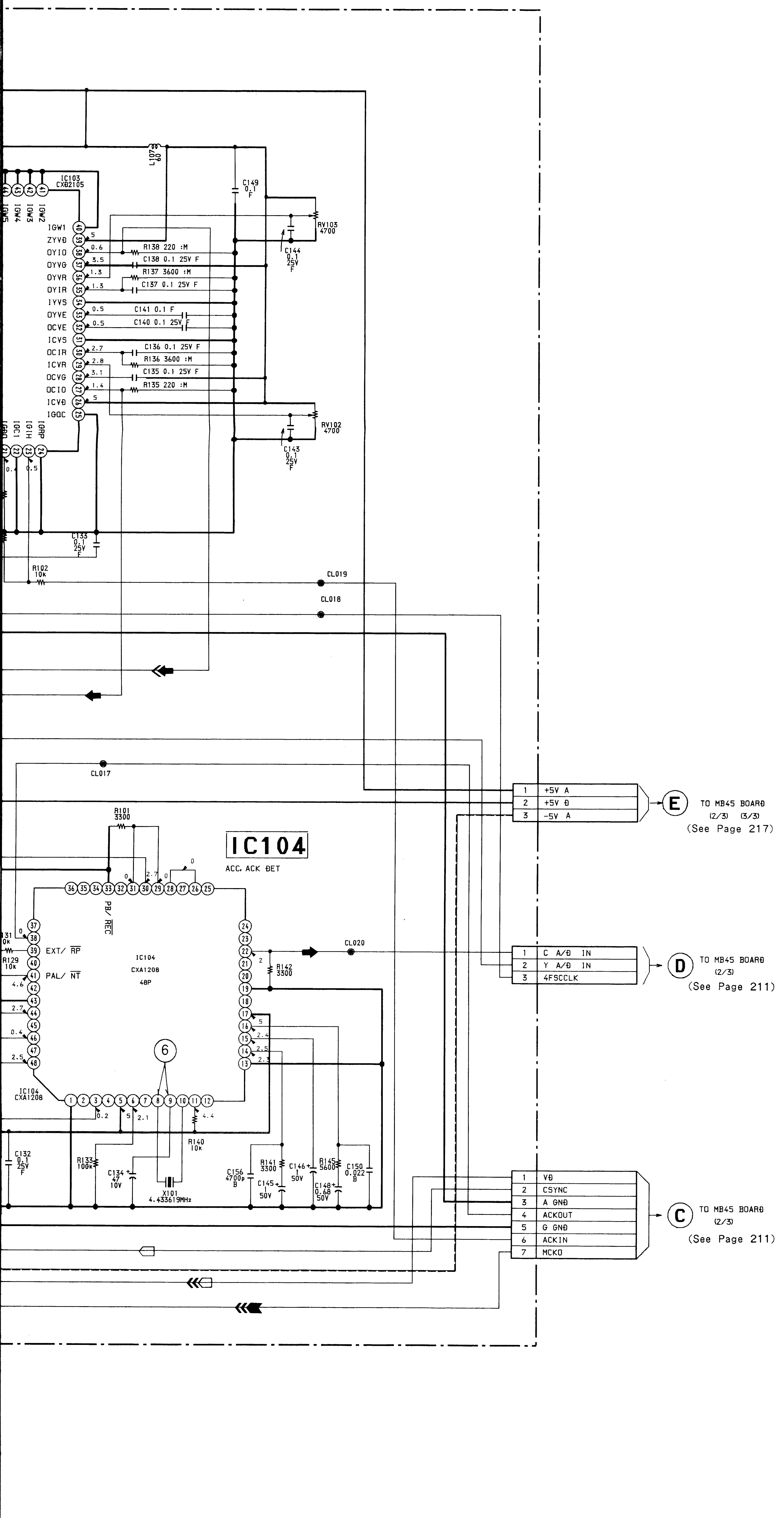
CONTROL Signal

| | |
|---|---|
| CONTROL | ▷ |
| A/D REF | ▶ |
| KEY PULSE | ▶ |
| SC | ▶ |
| CLK | ▶ |
| BEGIN | ▷ |
| INT | ▶ |
| SIRIAL IN | ▶ |
| SIRIAL OUT | ▶ |
| AUDIO Signal | ⇨ |

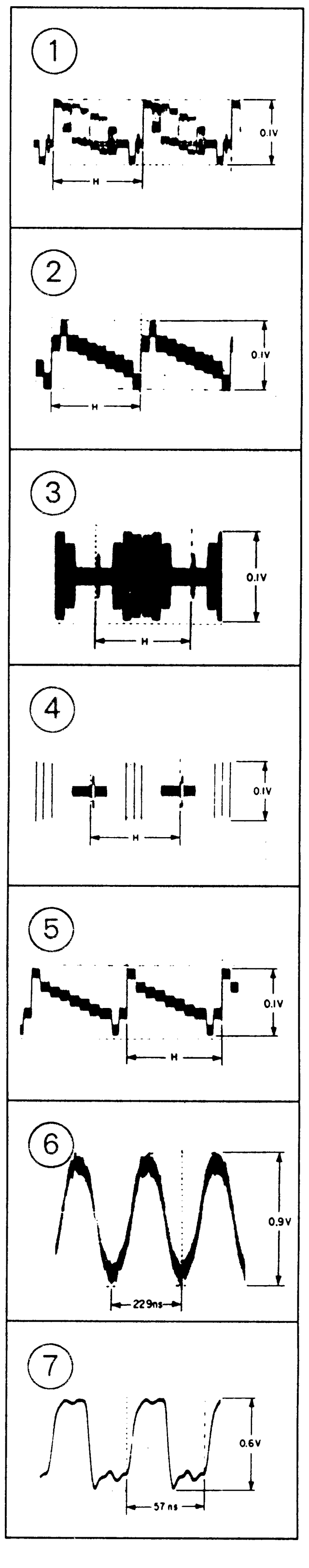
When indicating parts by reference number, please include the board name.

DIGITAL S

12
13
14
15
16
17
18
19
20
21
22
23
IC 103
DIGITAL COMB FILTER
IC103 CX82105
CX82105
(AXEL)
QFP-80P
OR00
IGRC PAL/ NT
YC8
YC7
YC6
YC5
YC4
YC3
YC2
YC1
Vss
DBAC
IGNP PAL/ NT
IGBE
IGPF
IOCK
IGW1
ZYVD
OYIO
OYVG
OYVR
OYIR
IYVS
OYVE
OCVE
ICVS
OCIR
ICVR
OCVG
OCIO
ICVD
IGQC
R121 10k
R122 10k
R123 10k
R120 10k
R117 10k
R116 XX
R115 XX
R114 10k
C127 100 10V
C130 0.1 25V F
L107 60
C149 0.1 F
RV103 4700
C144 0.1 25V F
R138 220 :M
C138 0.1 25V F
R137 3600 :M
C137 0.1 25V F
C141 0.1 F
C140 0.1 25V F
C136 0.1 25V F
R136 3600 :M
C135 0.1 25V F
R135 220 :M
RV102 4700
C143 0.1 25V F
R130 10k
R148 XX
C133 0.1 25V F
C125 0.1 25V F
C126 0.1 25V F
R102 10k
CL003
CL019
CL018
CL017
IC104
ACC. ACK DET
IC104 CXA1208 48P
PB/ REC
EXT/ RP
PAL/ NT
R101 3300
R131 10k
R126 XX
R129 10k
R142 3300
CL020
C128 150p CH
R124 3300
L106 60μH
C131 100 10V
C132 0.1 25V F
R133 100k
C134 47 10V
X101 4.433619MHz
R140 10k
C156 4700p B
R141 3300
C145 1 50V
C146 1 50V
C148 0.68 50V
R145 5600
C150 0.022 B
L101 60
C101 0.1 25V F
C103 100 10V
C106 0.1 25V F
C129 0.01 B
C199 100 10V
L199 60
C198 100 10V
-5V
L110 60
①
②
③
④
⑤
⑥
CL007
CL008
CL009
CL010
CL011
CL012
CL013
CL014
CL015
CL016
R929 220
R930 220
1 +5V A
2 +5V D
3 -5V A
E
TO MB4
(2/3)
(See Pa
1 C A/D IN
2 Y A/D IN
3 4FSCCLK
D
TO MB4
(2/3
(See Pa
1 VD
2 CSYNC
3 A GND
4 ACKOUT
5 G GND
6 ACKIN
7 MCKO
C
TO MB4
(2/3
(See Pa
21 -5.0V A
20 GND (A)
19 Y OUT
18 GND (A)
17 C OUT
16 GND (A)
15 C IN
14 GND (A)
13 Y (AD) IN
12 GND (A)
11 GND (D)
10 +5V (D)
9 +5V (D)
8 GND (D)
7 GND (D)
6 GND (D)
5 GND (D)
4 C SYNC
3 V D
2 MCKO
1
CN101
TO DP-40 CN101
(See Page 226)

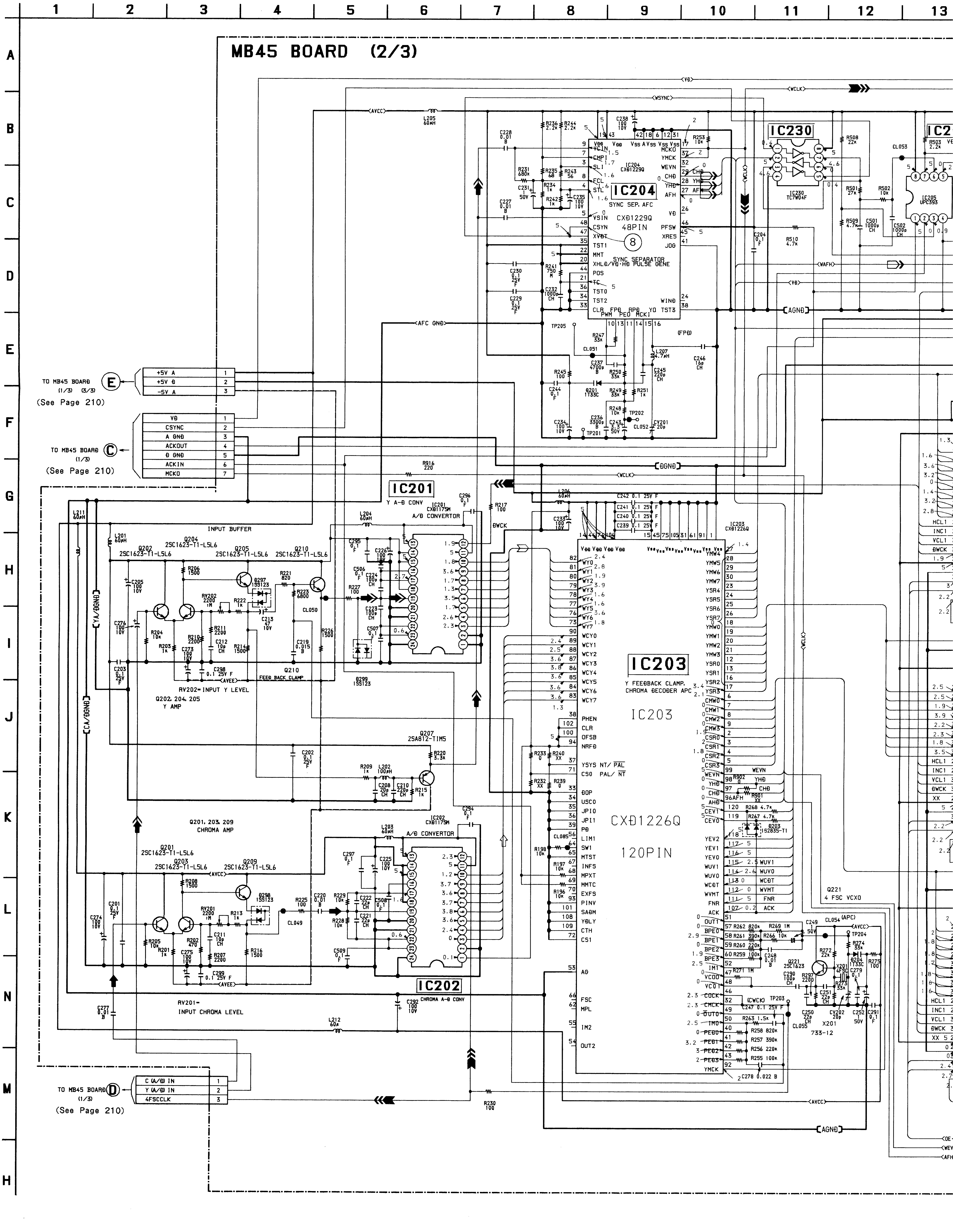

IC103
CXD2105
IGW1
ZYVD
OYIO
OYVG
OYVR
OYIR
IYVS
OYVE
OCVE
ICVS
OCIR
ICVR
OCVG
OCIO
ICVD
IGOC
IGW2
IGW3
IGW4
IGW5
IGRP
IGIH
IGCI
L107
C149 0.1 F
RV103 4700
C144 0.1 25V F
R138 220 :M
C138 0.1 25V F
R137 3600 :M
C137 0.1 25V F
C141 0.1 F
C140 0.1 25V F
C136 0.1 25V F
R136 3600 :M
C135 0.1 25V F
R135 220 :M
RV102 4700
C143 0.1 25V F
C133 0.1 25V F
R102 10k
CL019
CL018
CL017
R101 3300
IC104
ACC, ACK DET
PB/ REC
EXT/ RP
PAL/ NT
IC104
CXA1208
48P
IC104
CXA1208
CL020
R142 3300
R129 10k
⑥
R140 10k
C132 0.1 25V F
R133 100k
C134 47 10V
X101 4.433619MHz
C156 4700p B
R141 3300
C145 50V
C146 50V
C148 0.68 50V
R145 5600
C150 0.022 B
1 +5V A
2 +5V D
3 -5V A
Ⓔ TO MB45 BOARD (2/3) (3/3)
(See Page 217)
1 C A/D IN
2 Y A/D IN
3 4FSCCLK
Ⓓ TO MB45 BOARD (2/3)
(See Page 211)
1 VD
2 CSYNC
3 A GND
4 ACKOUT
5 G GND
6 ACKIN
7 MCKO
Ⓒ TO MB45 BOARD (2/3)
(See Page 211)

## MB-45 BOARD (1/3)

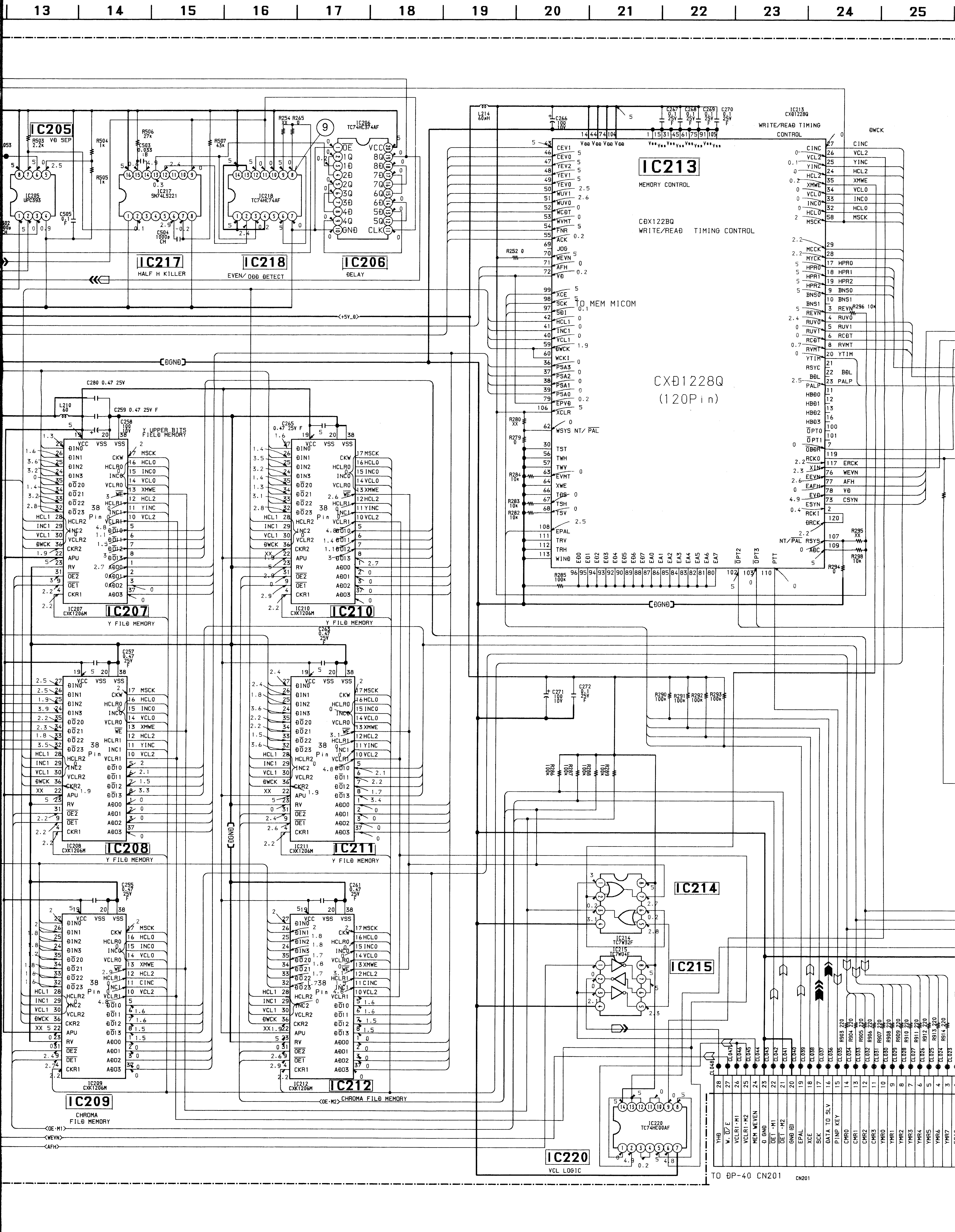


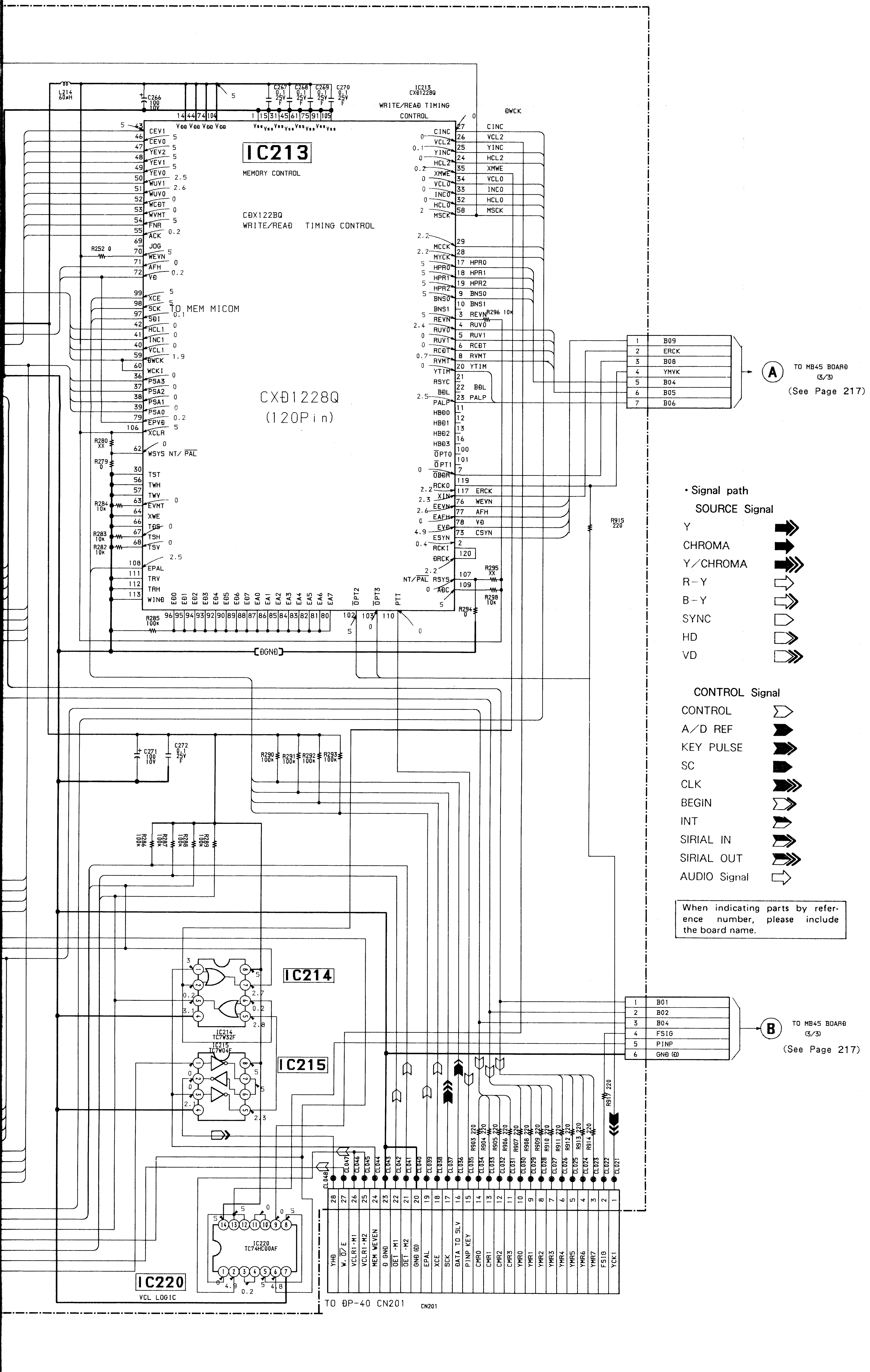
## MB-45 (2/3) (DIGITAL S. E. G PROCESS) SCHEMATIC DIAGRAM

—Ref. No. MB-45 BOARD : 9,000 Series—



MB45 BOARD (2/3)
IC204
CXD1229Q
48PIN
SYNC SEP. AFC
SYNC SEPARATOR
XHLD/VD·HD PULSE GENE
IC230
TC7W04F
IC205
UPC393
IC201
Y A-D CONV
CXD1175M
A/D CONVERTOR
IC202
CXD1175M
A/D CONVERTOR
CHROMA A-D CONV
IC203
CXD1226Q
120PIN
Y FEEDBACK CLAMP, CHROMA DECODER APC
INPUT BUFFER
RV202- INPUT Y LEVEL
Q202, 204, 205
Y AMP
Q201, 203, 209
CHROMA AMP
RV201-
INPUT CHROMA LEVEL
Q207
2SA812-T1M5
Q210
FEED BACK CLAMP
Q221
4 FSC VCXO
X201
733-12
TO MB45 BOARD (E) (1/3) (3/3) (See Page 210)
+5V A
+5V D
-5V A
TO MB45 BOARD (C) (1/3) (See Page 210)
VD
CSYNC
A GND
ACKOUT
D GND
ACKIN
MCKO
TO MB45 BOARD (D) (1/3) (See Page 210)
C (A/D) IN
Y (A/D) IN
4FSCCLK
<AVCC>
<AFC GND>
<WSYNC>
<VD>
<WCLK>
[DGND]
[AGND]
<WAFH>
<AVEE>


13
14
15
16
17
18
19
20
21
22
23
24
25
IC205
UPC393
V0 SEP
IC217
SN74LS221
HALF H KILLER
IC218
TC74HC74AF
EVEN/ ODD DETECT
IC206
TC74HC374AF
DELAY
IC213
CXD1228Q
MEMORY CONTROL
CDX122BQ
WRITE/READ TIMING CONTROL
WRITE/READ TIMING CONTROL
CXD1228Q
(120Pin)
TO MEM MICOM
IC207
CXK1206M
Y FILD MEMORY
Y UPPER BITS
FIELD MEMORY
IC210
CXK1206M
Y FILD MEMORY
IC208
CXK1206M
Y FILD MEMORY
IC211
CXK1206M
Y FILD MEMORY
IC209
CXK1206M
CHROMA
FILD MEMORY
IC212
CXK1206M
CHROMA FILD MEMORY
IC214
TC7W32F
IC215
TC7W04F
IC220
TC74HC00AF
VCL LOGIC
(+5V_D)
(DGND)
(OE·M1)
(OE·M2)
(WEVN)
(AFH)
TO DP-40 CN201
CN201


IC213
MEMORY CONTROL
CXD1228Q (120Pin)
CDX1228Q WRITE/READ TIMING CONTROL
IC213 CXD1228Q WRITE/READ TIMING CONTROL
TO MEM MICOM
L214 60µH
C266 100 10V
C267 0.1 25V F
C268 0.1 25V F
C269 0.1 25V F
C270 0.1 25V F
ØWCK
CEV1
CEV0
YEV2
YEV1
YEV0
WUV1
WUV0
WCØT
WVMT
FNR
ACK
JOG
WEVN
AFH
VØ
XCE
SCK
SØI
HCL1
INC1
VCL1
ØWCK
WCKI
PSA3
PSA2
PSA1
PSA0
EPVØ
XCLR
WSYS NT/PAL
TST
TWH
TWV
EVMT
XWE
TDS
TSH
TSV
EPAL
TRV
TRH
WINØ
CINC
VCL2
YINC
HCL2
XMWE
VCL0
INC0
HCL0
MSCK
MCCK
MYCK
HPR0
HPR1
HPR2
BNS0
BNS1
REVN
RUV0
RUV1
RCØT
RVMT
YTIM
RSYC
BØL
PALP
HBØ0
HBØ1
HBØ2
HBØ3
ØPT0
ØPT1
ØBØR
RCK0
XIN
EEVN
EAFH
EVØ
ESYN
RCK1
ØRCK
NT/PAL RSYS
ABC
ERCK
WEVN
AFH
VØ
CSYN
ØPT2
ØPT3
PTT
ØGNØ
R252 0
R280 XX
R279 0
R284 10k
R283 10k
R282 10k
R285 100k
R295 XX
R296 10k
R298 10k
R294 0
R915 220
C271 100 10V
C272 0.1 25V F
R290 100k
R291 100k
R292 100k
R293 100k
R286 100k
R287 100k
R288 100k
R289 100k
IC214
IC214 TC7W32F
IC215
IC215 TC7W04F
IC220
IC220 TC74HC00AF
VCL LOGIC
B09
ERCK
B08
YMVK
B04
B05
B06
A
TO MB45 BOARD (3/3)
(See Page 217)
B01
B02
B04
FSIG
PINP
GNØ (Ø)
B
TO MB45 BOARD (3/3)
(See Page 217)
R903 220
R904 220
R905 220
R906 220
R907 220
R908 220
R909 220
R910 220
R911 220
R912 220
R913 220
R914 220
R917 220
CL048
CL047
CL046
CL045
CL044
CL043
CL042
CL041
CL040
CL039
CL038
CL037
CL036
CL035
CL034
CL033
CL032
CL031
CL030
CL029
CL028
CL027
CL026
CL025
CL024
CL023
CL022
CL021
YHØ
W. Ō/E
VCLRI·M1
VCLRI·M2
MEM WEVEN
Ø GNØ
ØEI·M1
ØEI·M2
GNØ (Ø)
EPAL
XCE
SCK
ØATA TO SLV
PINP KEY
CMR0
CMR1
CMR2
CMR3
YMR0
YMR1
YMR2
YMR3
YMR4
YMR5
YMR6
YMR7
FSIØ
YCK1
TO ØP-40 CN201
CN201

- Signal path

SOURCE Signal

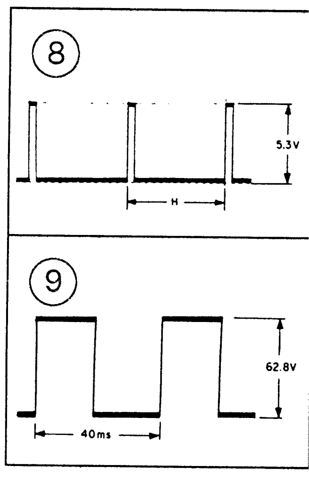
| | |
|---|---|
| Y | ➡ |
| CHROMA | ➡ |
| Y/CHROMA | ➡ |
| R−Y | ⇨ |
| B−Y | ⇨ |
| SYNC | ▷ |
| HD | ▷ |
| VD | ▷ |

CONTROL Signal

| | |
|---|---|
| CONTROL | ▷ |
| A/D REF | ▶ |
| KEY PULSE | ▶ |
| SC | ▶ |
| CLK | ▶ |
| BEGIN | ▷ |
| INT | ▶ |
| SIRIAL IN | ▶ |
| SIRIAL OUT | ▶ |
| AUDIO Signal | ⇨ |

When indicating parts by reference number, please include the board name.

## MB-45 BOARD (2/



DIGITAL S. E. G DIGITAL S. E. G

< DIODE >

| | | | |
|---|---|---|---|
| D181 | 8-719-800-76 | DIODE | 1SS226 |
| D182 | 8-719-800-76 | DIODE | 1SS226 |
| D201 | 8-713-300-88 | DIODE | 1T33C-01 |
| D203 | 8-719-104-34 | DIODE | 1S2836 |
| D204 | 8-713-300-88 | DIODE | 1T33C-01 |
| D297 | 8-719-800-76 | DIODE | 1SS226 |
| D298 | 8-719-800-76 | DIODE | 1SS226 |
| D299 | 8-719-800-76 | DIODE | 1SS226 |
| D301 | 8-713-300-88 | DIODE | 1T33C-01 |
| D302 | 8-713-300-88 | DIODE | 1T33C-01 |

< IC >

| | | | |
|---|---|---|---|
| IC101 | 8-759-144-84 | IC | uPC24M05HF |
| IC102 | 8-752-334-55 | IC | CXD1175AM |
| IC103 | 8-752-336-90 | IC | CXD2105Q |
| IC104 | 8-752-039-34 | IC | CXA1208Q |
| IC201 | 8-752-334-55 | IC | CXD1175AM |
| IC202 | 8-752-334-55 | IC | CXD1175AM |
| IC203 | 8-759-987-17 | IC | CXD1226Q |
| IC204 | 8-759-987-20 | IC | CXD1229Q |
| IC205 | 8-759-100-93 | IC | uPC393G2 |
| IC206 | 8-759-233-18 | IC | TC74HC374AF-TP1 |
| IC207 | 8-752-337-41 | IC | CXK1206M |
| IC208 | 8-752-337-41 | IC | CXK1206M |
| IC209 | 8-752-337-41 | IC | CXK1206M |
| IC210 | 8-752-337-41 | IC | CXK1206M |
| IC211 | 8-752-337-41 | IC | CXK1206M |
| IC212 | 8-752-337-41 | IC | CXK1206M |
| IC213 | 8-759-987-19 | IC | CXD1228Q |
| IC214 | 8-759-242-68 | IC | TC7W32F |
| IC215 | 8-759-242-74 | IC | TC7W04F |
| IC217 | 8-759-907-81 | IC | SN74LS221NS |
| IC218 | 8-759-232-32 | IC | TC74HC74AF |
| IC220 | 8-759-032-01 | IC | TC74HC00AF |
| IC230 | 8-759-242-74 | IC | TC7W04F |
| IC301 | 8-759-987-18 | IC | CXD1227Q |
| IC302 | 8-752-334-64 | IC | CXD1171M |
| IC303 | 8-752-334-64 | IC | CXD1171M |
| IC304 | 8-759-987-20 | IC | CXD1229Q |
| IC305 | 8-752-306-51 | IC | CX23065A |
| IC308 | 8-759-242-74 | IC | TC7W04F |
| IC309 | 8-759-242-76 | IC | TC7W08F |
| IC310 | 8-759-242-68 | IC | TC7W32F |
| IC311 | 8-759-233-18 | IC | TC74HC374AF |
| IC312 | 8-759-232-84 | IC | TC74HC175AF |

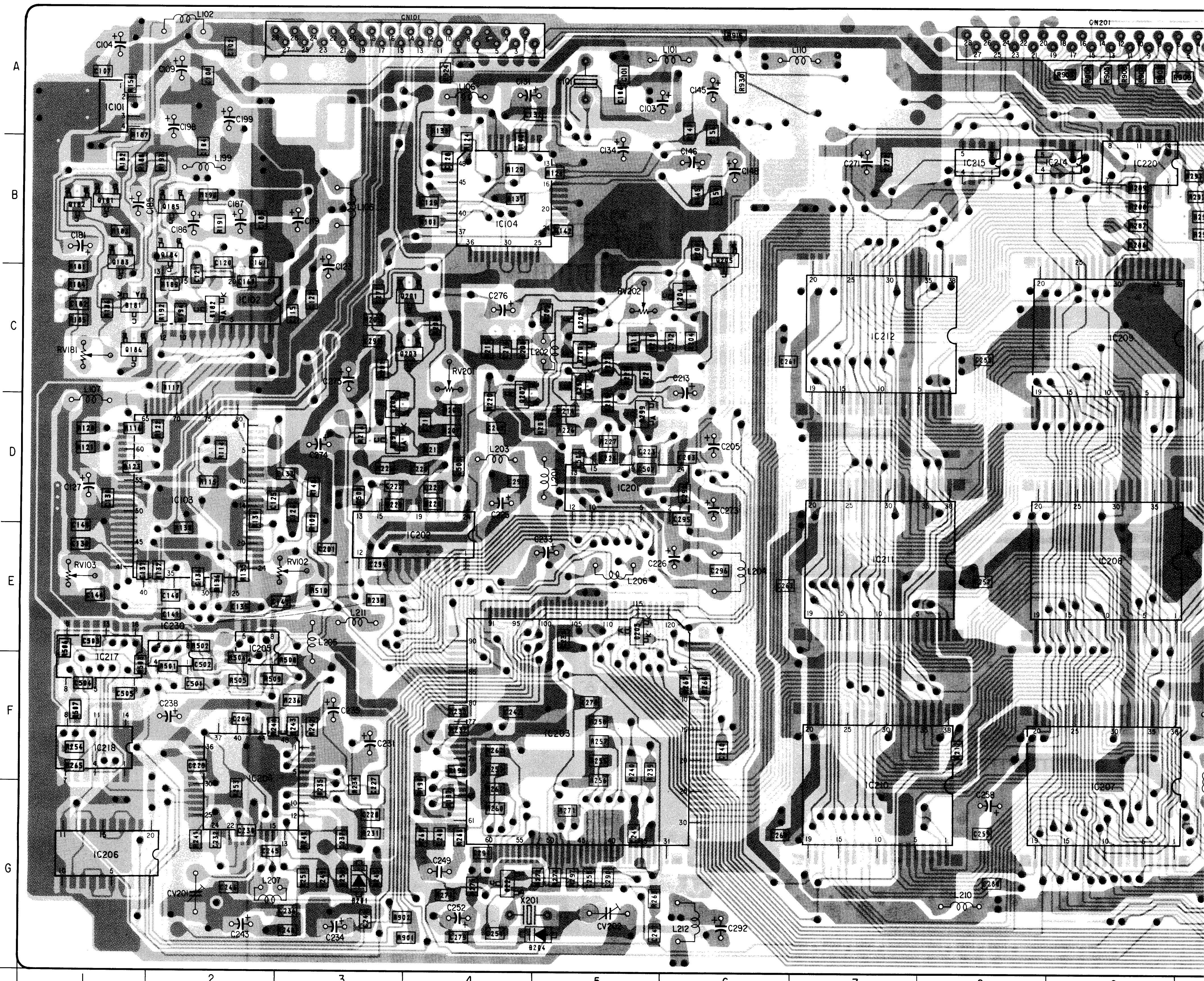
< TRANSISTOR >

| | | | |
|---|---|---|---|
| Q181 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q182 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q183 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q184 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q185 | 8-729-216-22 | TRANSISTOR | 2SA1162 |
| Q186 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q201 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q202 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q203 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q204 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q205 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q207 | 8-729-216-22 | TRANSISTOR | 2SA1162 |
| Q209 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q210 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q221 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q301 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q302 | 8-729-100-66 | TRANSISTOR | 2SC1623 |
| Q304 | 8-729-100-66 | TRANSISTOR | 2SC1623 |

## MB-45 (DIGITAL S. E. G PROCESS) PRINTED WIRING BOARD

—Ref. No. MB-45 BOARD : 9,000 Series—

MB-45 BOARD



CN101
CN201
A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
IC101
IC102
IC103
IC104
IC201
IC202
IC203
IC204
IC205
IC206
IC207
IC208
IC209
IC210
IC211
IC212
IC214
IC215
IC217
IC218
IC220
IC230
RV101
RV102
RV103
RV181
RV201
RV202
L101
L102
L110
L199
L106
L107
L203
L206
L207
L210
L211
L212
X201
CV201
CV202
C292
C243
C234
C252

MB-45 BOARD

| | |
|---|---|
| D181 | C-1 |
| D182 | C-2 |
| D201 | G-3 |
| D203 | E-5 |
| D204 | G-5 |
| D297 | C-5 |
| D298 | D-3 |
| D299 | D-5 |
| D301 | B-11 |
| D302 | G-14 |
| IC101 | A-1 |
| IC102 | C-2 |
| IC103 | D-2 |
| IC104 | B-4 |
| IC201 | D-5 |
| IC202 | E-4 |
| IC203 | F-5 |
| IC204 | G-2 |
| IC205 | F-2 |
| IC206 | G-1 |
| IC207 | G-9 |
| IC208 | E-9 |
| IC209 | C-9 |
| IC210 | G-7 |
| IC211 | E-7 |
| IC212 | C-7 |
| IC213 | F-11 |
| IC214 | B-9 |
| IC215 | B-8 |
| IC217 | F-1 |
| IC218 | F-1 |
| IC220 | B-9 |
| IC230 | F-2 |
| IC301 | D-12 |
| IC302 | B-12 |
| IC303 | G-14 |
| IC304 | F-12 |
| IC308 | D-14 |
| IC309 | D-14 |
| IC310 | C-14 |
| IC311 | G-12 |
| IC312 | B-11 |
| Q181 | B-1 |
| Q182 | B-1 |
| Q183 | C-1 |
| Q184 | B-2 |
| Q185 | B-2 |
| Q186 | C-1 |
| Q201 | C-4 |
| Q202 | C-5 |
| Q203 | C-4 |
| Q204 | C-6 |
| Q205 | B-6 |
| Q207 | D-4 |
| Q209 | D-3 |
| Q210 | C-5 |
| Q221 | G-4 |
| Q301 | A-13 |
| Q302 | A-11 |
| Q304 | D-11 |

SC1623
SC1623
SC1623
SC1623
SA1162

SC1623
SC1623
SC1623
SC1623
SC1623

SC1623
SA1162
SC1623
SC1623
SC1623

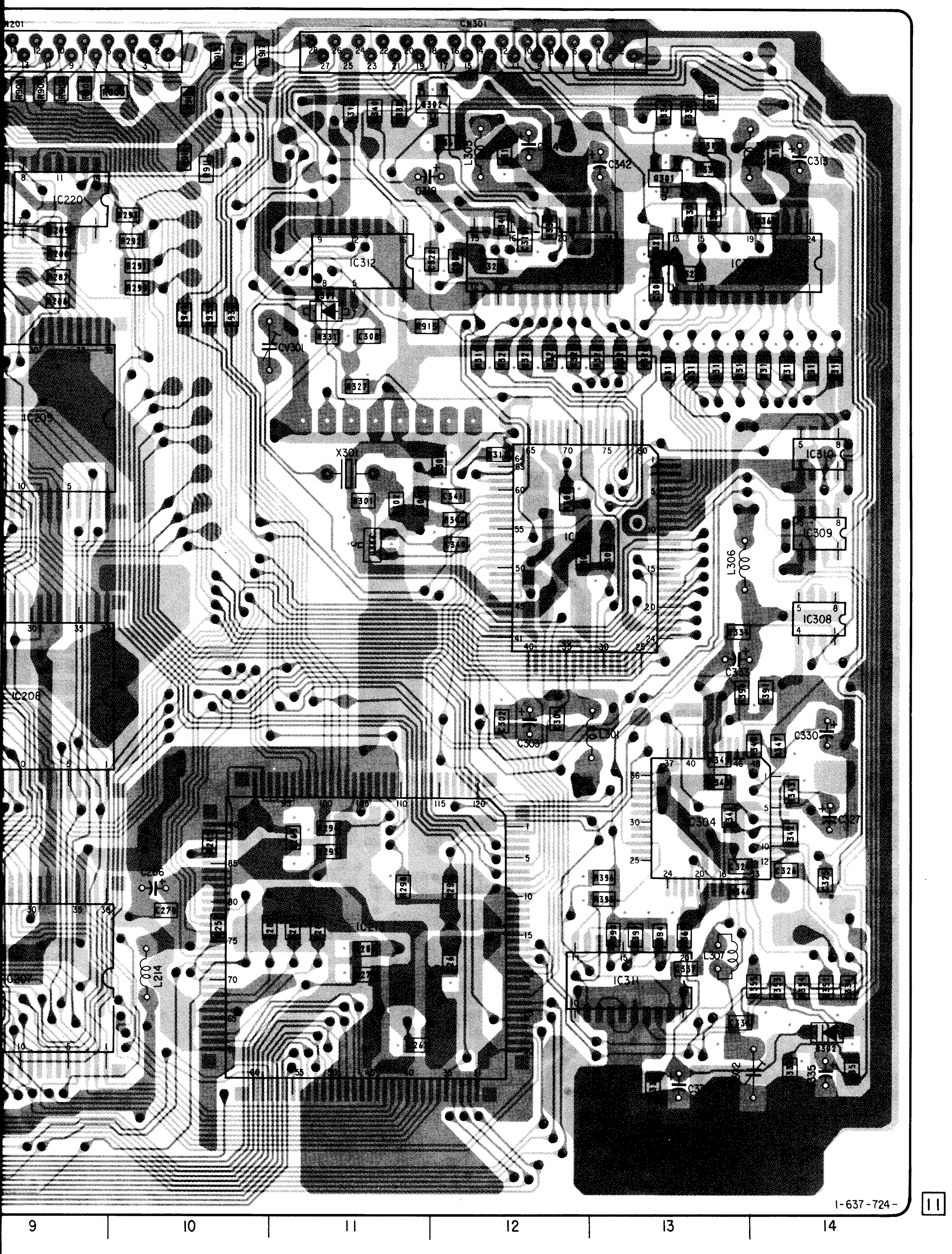
SC1623
SC1623
SC1623

- MB-45 borad is the printed wiring board which has four layers structure but inner two layers' patterns are omitted.

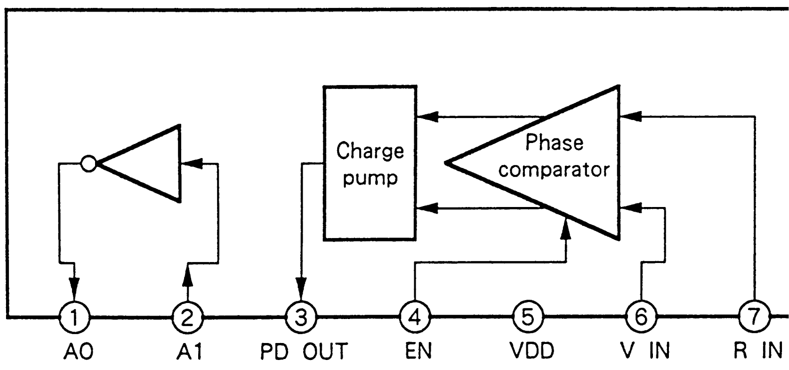
For printed wiring boards :

- o— : indicates a lead wire mounted on the componet side.
- •— : indicates a lead wire mounted on the printed side.
- ● : Through hole.
- ▨ : Pattern from the side which enables seeing.
- ░ : Pattern of the rear side.

When indicating parts by reference number, please include the board name.

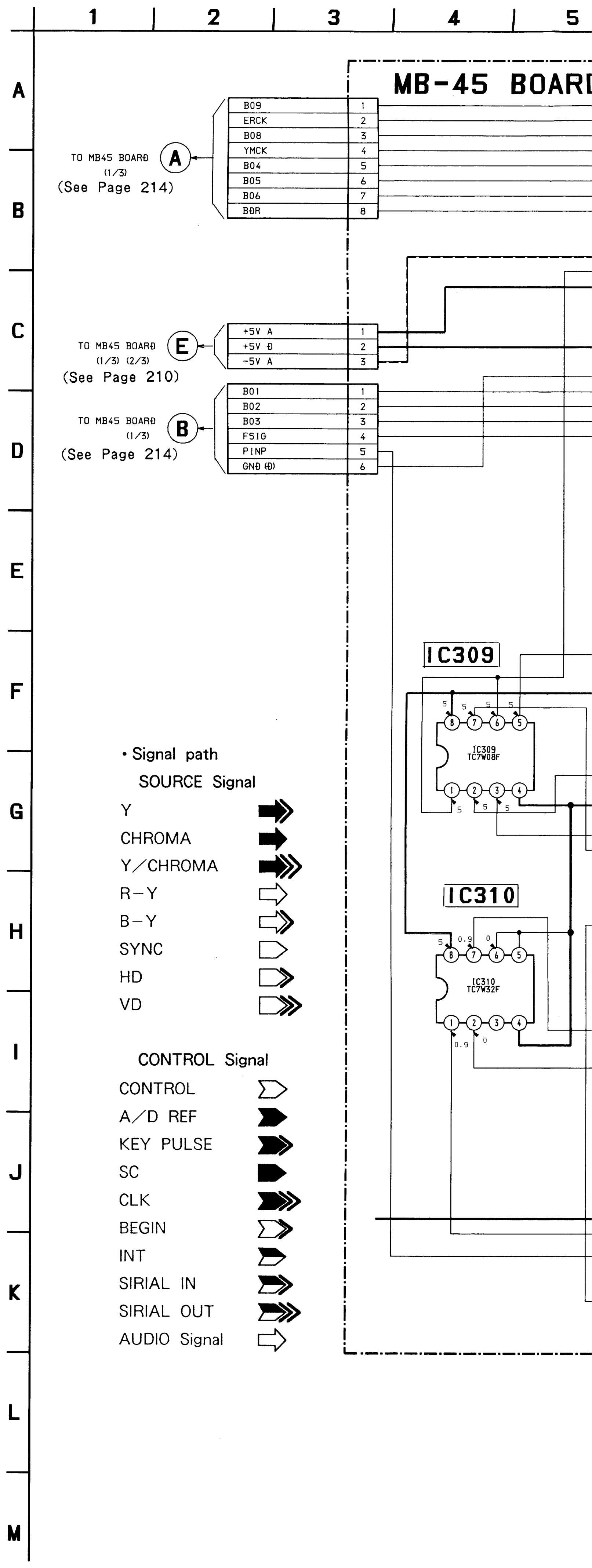

CN301
IC220
IC205
IC206
IC312
IC309
IC310
IC308
IC311
X301
L306
L307
L214
C342
C330
CV301
1-637-724-
11
9
10
11
12
13
14

IC305 CX23065A

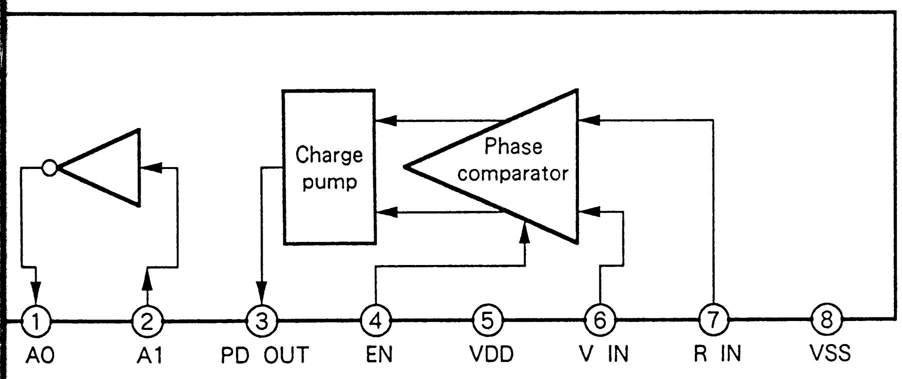

Charge pump
Phase comparator
1
2
3
4
5
6
7
AO
A1
PD OUT
EN
VDD
V IN
R IN

MB-45 (3/3) (DIGITAL S. E. G PROCESS) SCHEMATIC DIA

—Ref. No. MB-45 BOARD : 9,000 Series—

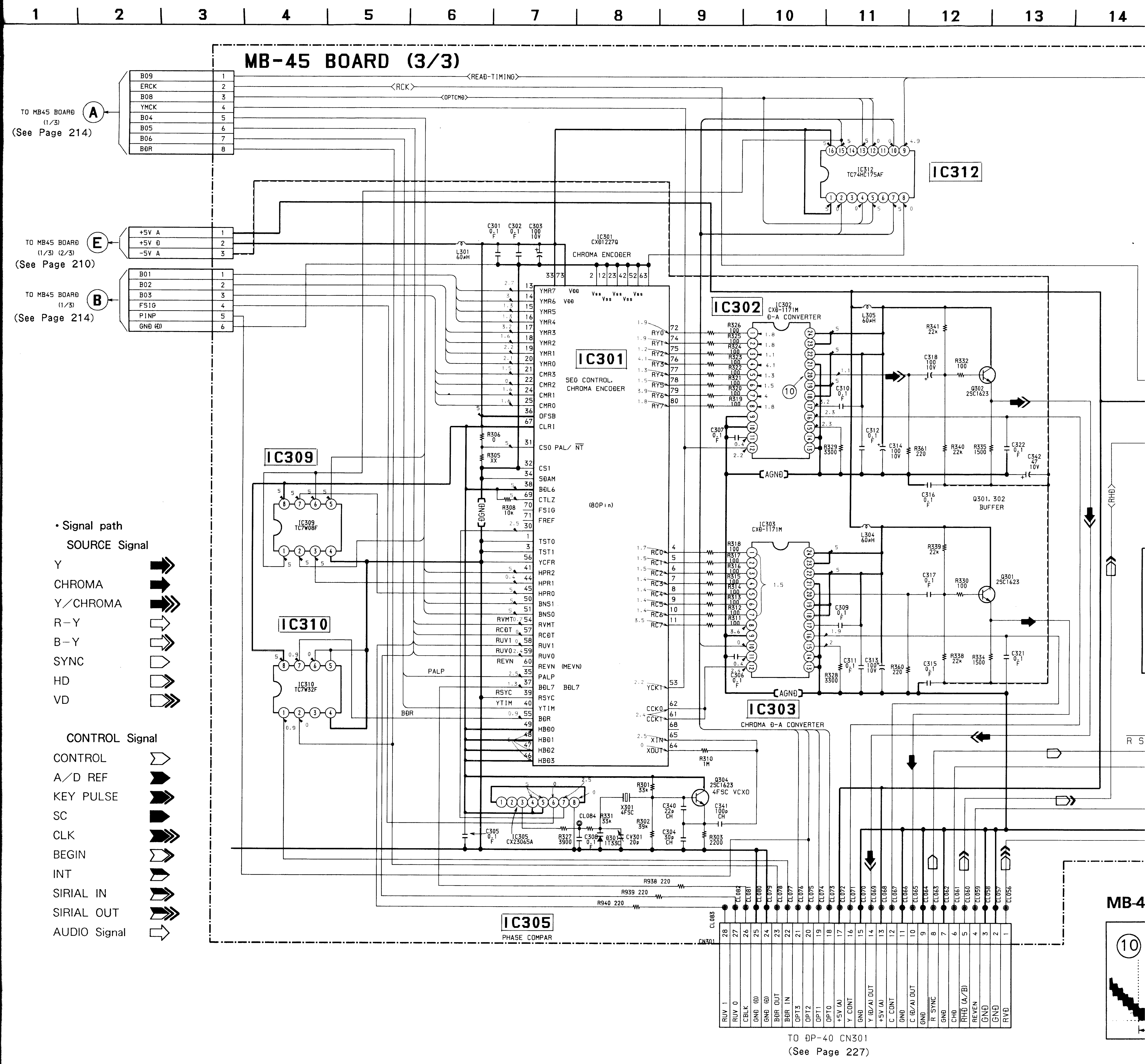

1
2
3
4
5
A
B
C
D
E
F
G
H
I
J
K
L
M
MB-45 BOARD
TO MB45 BOARD A (1/3)
(See Page 214)
B09
ERCK
B08
YMCK
B04
B05
B06
B0R
TO MB45 BOARD E (1/3) (2/3)
(See Page 210)
+5V A
+5V D
-5V A
TO MB45 BOARD B (1/3)
(See Page 214)
B01
B02
B03
FSIG
PINP
GND (D)
IC309
IC309 TC7W08F
IC310
IC310 TC7W32F
• Signal path
SOURCE Signal
Y
CHROMA
Y/CHROMA
R−Y
B−Y
SYNC
HD
VD
CONTROL Signal
CONTROL
A/D REF
KEY PULSE
SC
CLK
BEGIN
INT
SIRIAL IN
SIRIAL OUT
AUDIO Signal

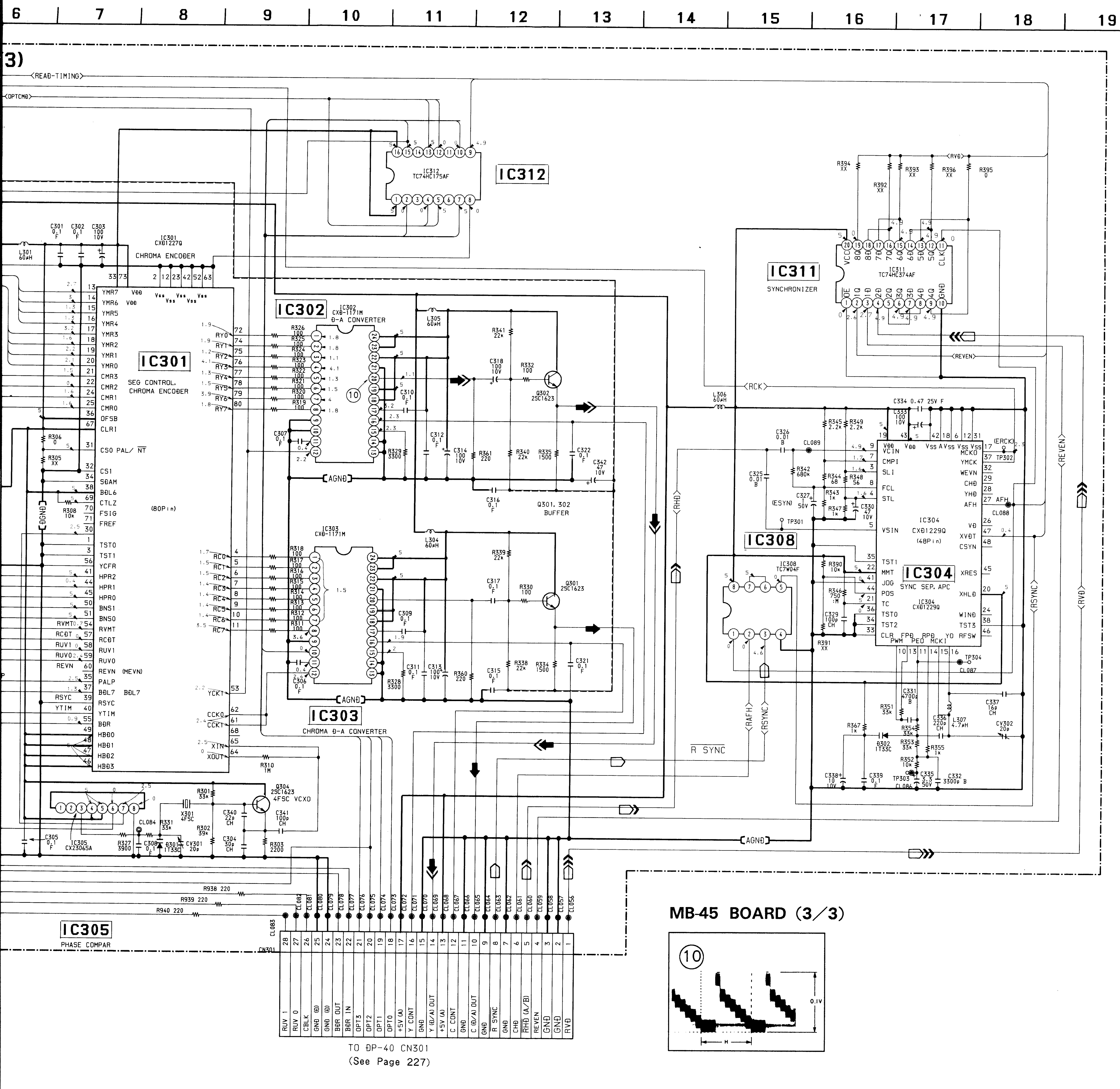
05 CX23065A


Charge pump
Phase comparator
1 AO
2 A1
3 PD OUT
4 EN
5 VDD
6 V IN
7 R IN
8 VSS

## 5 (3/3) (DIGITAL S. E. G PROCESS) SCHEMATIC DIAGRAM

. No. MB-45 BOARD : 9,000 Series—


1
2
3
4
5
6
7
8
9
10
11
12
13
14
MB-45 BOARD (3/3)
TO MB45 BOARD (1/3) (See Page 214)
A
B09 ERCK B08 YMCK B04 B05 B06 BØR
READ-TIMING
RCK
OPTCMØ
TO MB45 BOARD (1/3) (2/3) (See Page 210)
E
+5V A
+5V Ð
-5V A
TO MB45 BOARD (1/3) (See Page 214)
B
B01 B02 B03 FSIG PINP GNÐ (Ð)
IC312
TC74HC175AF
IC301
CXD1227Q
CHROMA ENCODER
SEG CONTROL, CHROMA ENCODER
(80Pin)
L301 60μH
C301 0.1 F
C302 0.1 F
C303 100 10V
YMR7 YMR6 YMR5 YMR4 YMR3 YMR2 YMR1 YMR0
CMR3 CMR2 CMR1 CMR0
OFSB CLRI CS0 PAL/NT CS1 SØAM BØL6 CTLZ FSIG FREF
TST0 TST1 YCFR HPR2 HPR1 HPR0 BNS1 BNS0 RVMT RCØT RUV1 RUV0 REVN PALP BØL7 RSYC YTIM BØR HBØ0 HBØ1 HBØ2 HBØ3
VØØ VSS
RYØ RY1 RY2 RY3 RY4 RY5 RY6 RY7
RCØ RC1 RC2 RC3 RC4 RC5 RC6 RC7
YCKT CCKØ CCKT XIN XOUT
(MEVN)
R306 0
R305 XX
R308 10k
R310 1M
IC309
TC7W08F
IC310
TC7W32F
PALP
BØR
IC302
CXD-1171M
Ð-A CONVERTER
IC303
CXD-1171M
CHROMA Ð-A CONVERTER
AGNÐ
L305 60μH
L304 60μH
Q302 2SC1623
Q301 2SC1623
Q301, 302 BUFFER
R341 22k
R339 22k
R332 100
R330 100
C318 100 10V
C317 0.1 F
R340 22k
R335 1500
R338 22k
R334 1500
C322 0.1 F
C321 0.1 F
C342 47 10V
C316 0.1 F
R329 3300
R328 3300
R361 220
R360 220
C314 100 10V
C313 100 10V
RHD
R S
IC305
CX23065A
PHASE COMPAR
Q304 2SC1623 4FSC VCXO
X301 4FSC
R301 33k
R331 33k
R302 39k
R303 2200
R327 3900
C340 22p CH
C341 100p CH
C304 30p CH
C305 0.1 F
C308 0.1 F
D301 1T33Ð
CV301 20p
CL084
R938 220
R939 220
R940 220
CL083 CL082 CL081 CL080 CL079 CL078 CL077 CL076 CL075 CL074 CL073 CL072 CL071 CL070 CL069 CL068 CL067 CL066 CL065 CL064 CL063 CL062 CL061 CL060 CL059 CL058 CL057 CL056
CN301
RUV 1
RUV 0
CBLK
GNÐ (Ð)
GNÐ (Ð)
BØR OUT
BØR IN
OPT3
OPT2
OPT1
OPT0
+5V (A)
Y CONT
GNÐ
Y (Ð/A) OUT
+5V (A)
C CONT
C (Ð/A) OUT
GNÐ
R SYNC
GNÐ
CHÐ
RHÐ (A/B)
REVEN
GNÐ
GNÐ
RVÐ
TO ÐP-40 CN301 (See Page 227)
MB-4
10
• Signal path
SOURCE Signal
Y
CHROMA
Y/CHROMA
R-Y
B-Y
SYNC
HD
VD
CONTROL Signal
CONTROL
A/D REF
KEY PULSE
SC
CLK
BEGIN
INT
SIRIAL IN
SIRIAL OUT
AUDIO Signal


6
7
8
9
10
11
12
13
14
15
16
17
18
19
3)
<READ-TIMING>
<OPTCMD>
IC312
TC74HC175AF
IC301
CX01227Q
CHROMA ENCODER
IC301
SEG CONTROL.
CHROMA ENCODER
(80Pin)
IC302
CXD-1171M
D-A CONVERTER
IC303
CXD-1171M
IC303
CHROMA D-A CONVERTER
Q302
2SC1623
Q301
2SC1623
Q301, 302
BUFFER
IC311
TC74HC374AF
IC311
SYNCHRONIZER
IC304
CXD1229Q
(48Pin)
IC304
SYNC SEP. APC
IC308
TC7W04F
IC308
IC305
CX23065A
IC305
PHASE COMPAR
Q304
2SC1623
4FSC VCXO
X301
4FSC
<RVD>
<RCK>
<REVEN>
<RHD>
<RSYNC>
<RAFH>
<AGND>
R SYNC
L301 60μH
L305 60μH
L304 60μH
L306 60μH
L307 4.7μH
CN301
RUV 1
RUV 0
CBLK
GND (D)
GND (D)
BBR OUT
BBR IN
OPT3
OPT2
OPT1
OPT0
+5V (A)
Y CONT
GND
Y (D/A) OUT
+5V (A)
C CONT
GND
C (D/A) OUT
GND
R SYNC
GND
CHD
RHD (A/B)
REVEN
GND
GND
RVD
TO DP-40 CN301
(See Page 227)
⑩
0.1V
H

## MB-45 BOARD (3/3)

## DP-40A (LINE A DIGITAL PROCESS), DP-40B (LINE B DIGITAL PROCESS) PRIN

—Ref. No. DP-40A, DP-40B BOARDS : 8,000 Series—

< DIODE >

| | | | |
|---|---|---|---|
| D101 | 8-719-800-76 | DIODE | 1SS226 |
| D102 | 8-719-800-76 | DIODE | 1SS226 |
| D103 | 8-719-800-76 | DIODE | 1SS226 |

< IC >

| | | | |
|---|---|---|---|
| IC104 | 8-759-230-XX | IC | TC74HC4053AF-TP1 |
| IC105 | 8-759-242-74 | IC | TC7W04F-TE12L |
| IC106 | 8-759-907-81 | IC | SN74LS221NS |
| IC108 | 8-752-334-64 | IC | CXD1171M (DP-40A) |
| IC109 | 8-752-334-64 | IC | CXD1171M (DP-40A) |
| IC110 | 8-759-505-98 | IC | MB620461 |
| IC501 | 8-752-333-24 | IC | CXL1506M |
| IC502 | 8-759-603-54 | IC | M51271FP |
| IC503 | 8-759-631-06 | IC | M50541FP |
| IC504 | 8-759-633-04 | IC | M52686AFP |
| IC505 | 8-759-630-63 | IC | M5M4C500L-10K |
| IC506 | 8-759-633-96 | IC | M52682FP |
| IC507 | 8-759-907-81 | IC | SN74LS221NS |
| IC508 | 8-759-100-93 | IC | uPC393G2 |
| IC509 | 8-759-907-81 | IC | SN74LS221NS |
| IC510 | 8-759-239-23 | IC | TC74HC86AF |
| IC511 | 8-759-239-23 | IC | TC74HC86AF |
| IC512 | 8-759-232-74 | IC | TC74HC163AF |

< TRANSISTOR >

| | | | | |
|---|---|---|---|---|
| Q101 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q102 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q103 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q104 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q105 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q106 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q107 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q108 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q109 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q110 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q111 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q112 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q113 | 8-729-216-22 | TRANSISTOR | 2SA1162 | |
| Q114 | 8-729-216-22 | TRANSISTOR | 2SA1162 | |
| Q115 | 8-729-216-22 | TRANSISTOR | 2SA1162 | |
| Q116 | 8-729-216-22 | TRANSISTOR | 2SA1162 | |
| Q117 | 8-729-100-66 | TRANSISTOR | 2SC1623 | (DP-40A) |
| Q118 | 8-729-100-66 | TRANSISTOR | 2SC1623 | (DP-40A) |
| Q119 | 8-729-100-66 | TRANSISTOR | 2SC1623 | (DP-40A) |
| Q120 | 8-729-100-66 | TRANSISTOR | 2SC1623 | (DP-40A) |
| Q501 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q502 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q503 | 8-729-216-22 | TRANSISTOR | 2SA1162 | |
| Q504 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q505 | 8-729-216-22 | TRANSISTOR | 2SA1162 | |
| Q506 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q507 | 8-729-216-22 | TRANSISTOR | 2SA1162 | |
| Q508 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q509 | 8-729-216-22 | TRANSISTOR | 2SA1162 | |
| Q510 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q511 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q512 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q513 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q514 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q515 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q516 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q517 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q518 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q519 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q520 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q521 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |

For the DP-40A／40B board, use the two same circuit boards as for LINE-A and for LINE-B.
The different boards for LINE-A／B are provided as replacement parts. The different points are indicated on the circuit diagram and the surface of the circuit by the dotted line.

For printed wiring boards :

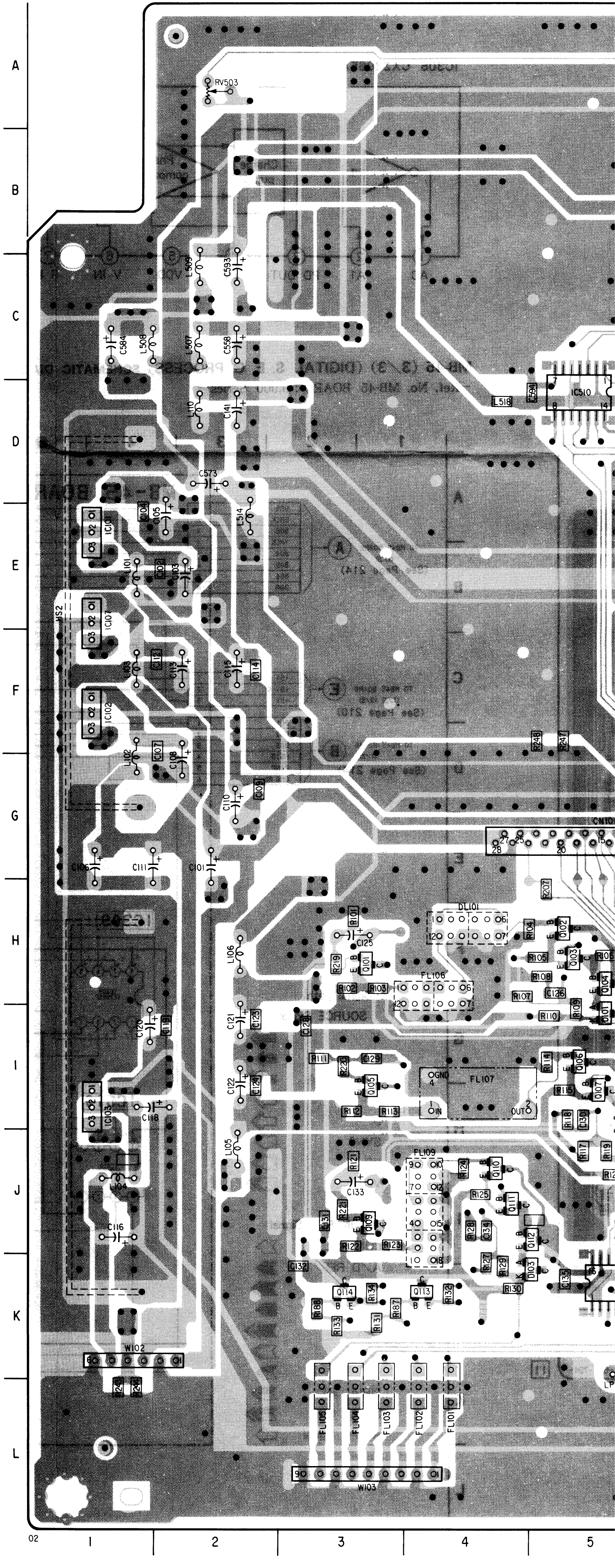
- ○— : indicates a lead wire mounted on the componet side.
- ●— : indicates a lead wire mounted on the printed side.
- ● : Through hole.
- ▨ : Pattern from the side which enables seeing.
- ░ : Pattern of the rear side.

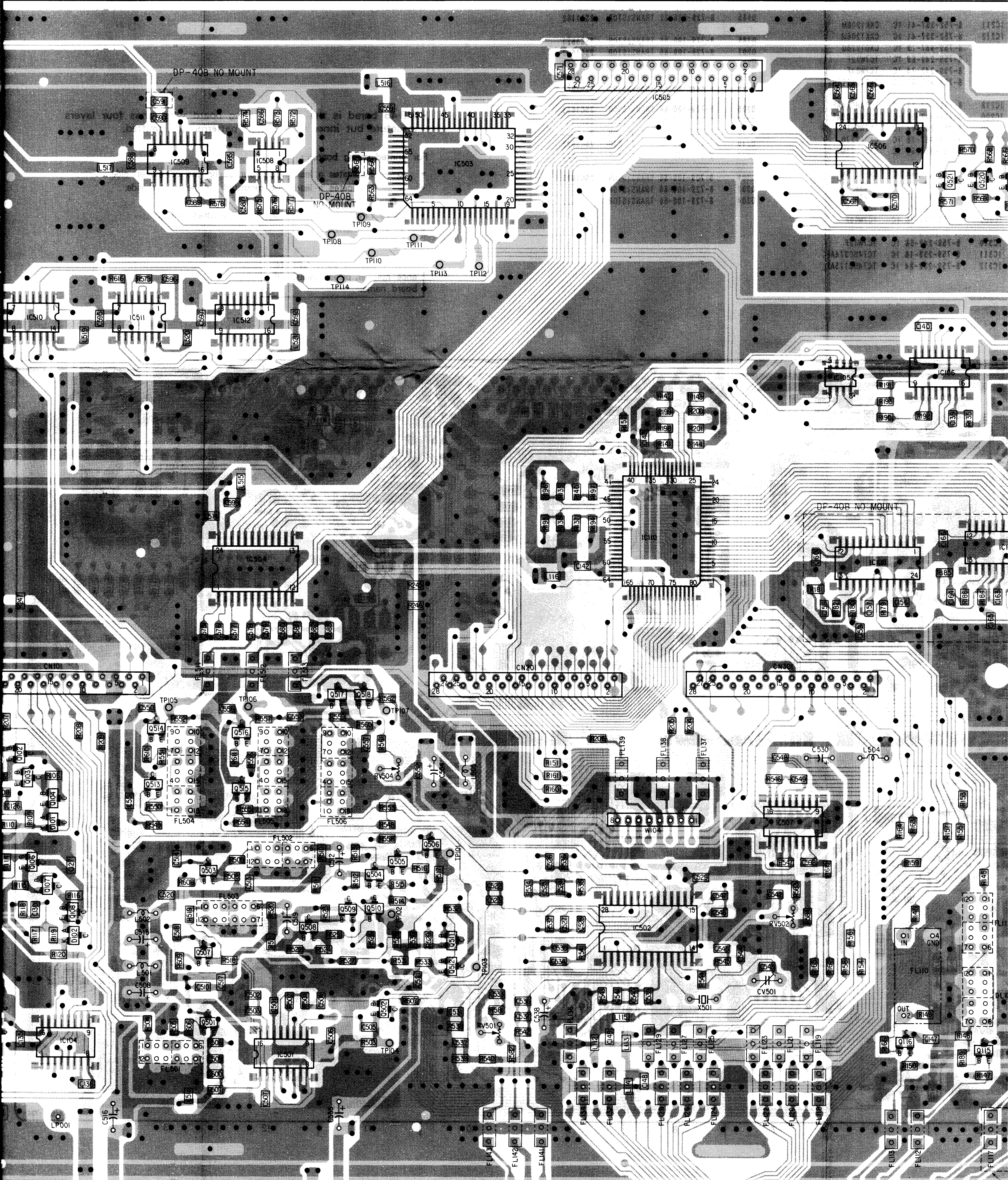
When indicating parts by reference number, please include the board name.

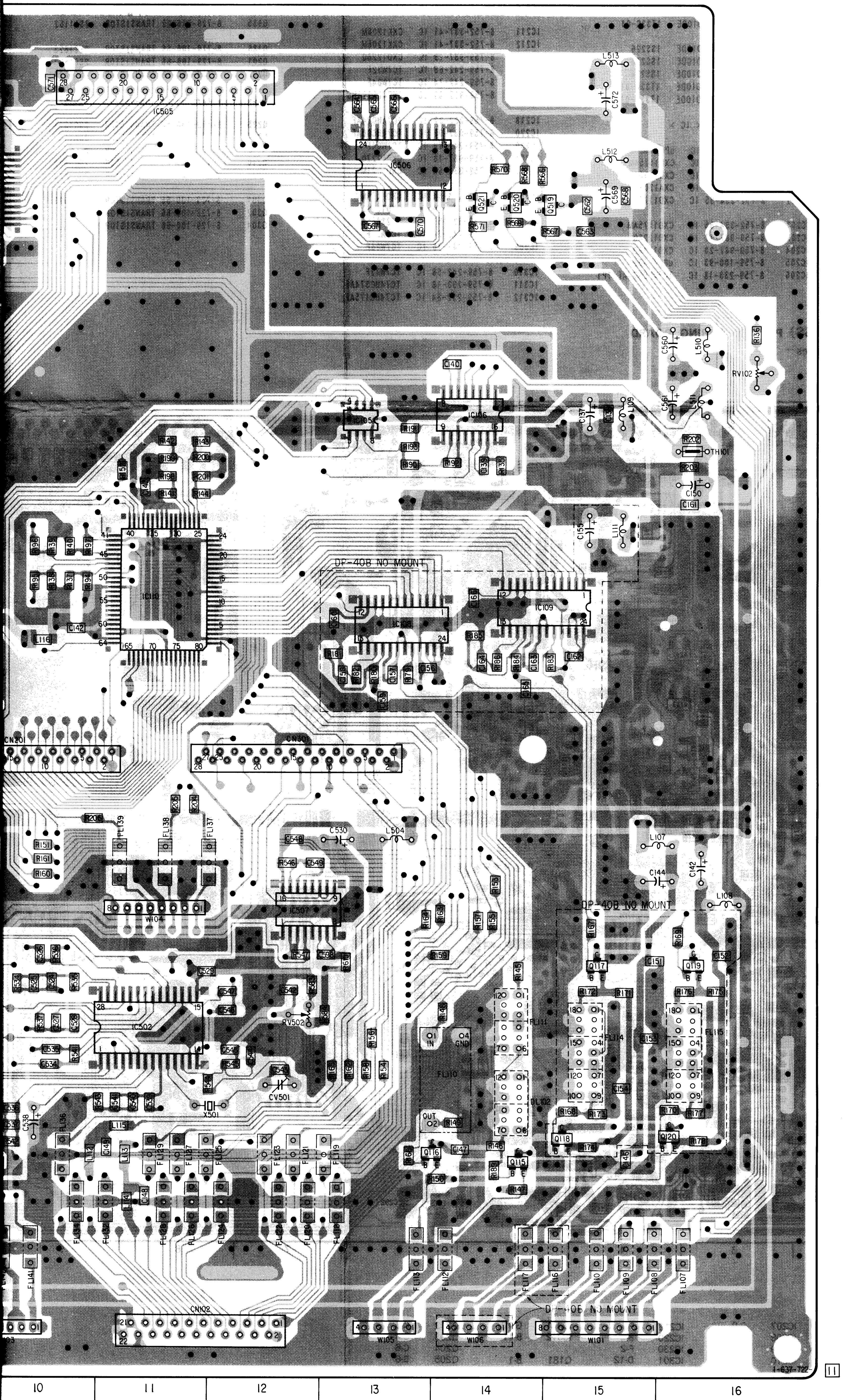
DP-40 BOARD

| | |
|---|---|
| D101 | I-5 |
| D102 | J-5 |
| D103 | K-4 |
| IC101 | E-1 |
| IC102 | F-1 |
| IC103 | I-1 |
| IC104 | K-5 |
| IC105 | D-13 |
| IC106 | D-14 |
| IC107 | E-1 |
| IC108 | F-13 |
| IC109 | F-14 |
| IC110 | F-11 |
| IC501 | K-7 |
| IC502 | J-11 |
| IC503 | B-9 |
| IC504 | F-7 |
| IC505 | A-11 |
| IC506 | B-13 |
| IC507 | I-12 |
| IC508 | B-7 |
| IC509 | B-6 |
| IC510 | D-5 |
| IC511 | D-6 |
| IC512 | D-7 |
| Q101 | H-3 |
| Q102 | H-5 |
| Q103 | H-5 |
| Q104 | H-5 |
| Q105 | I-3 |
| Q106 | I-5 |
| Q107 | I-5 |
| Q108 | I-5 |
| Q109 | J-3 |
| Q110 | J-4 |
| Q111 | J-4 |
| Q112 | J-4 |
| Q113 | K-4 |
| Q114 | K-3 |
| Q115 | K-14 |
| Q116 | K-13 |
| Q117 | I-15 |
| Q118 | K-15 |
| Q119 | I-16 |
| Q120 | K-16 |
| Q501 | K-7 |
| Q502 | J-8 |
| Q503 | I-7 |
| Q504 | I-8 |
| Q505 | I-8 |
| Q506 | I-9 |
| Q507 | J-7 |
| Q508 | J-8 |
| Q509 | I-8 |
| Q510 | I-8 |
| Q511 | J-9 |
| Q512 | J-9 |
| Q513 | H-6 |
| Q514 | H-6 |
| Q515 | H-7 |
| Q516 | H-7 |
| Q517 | G-8 |
| Q518 | G-8 |
| Q519 | B-14 |
| Q520 | B-14 |
| Q521 | B-14 |

DP-40 BOARD (A／B)

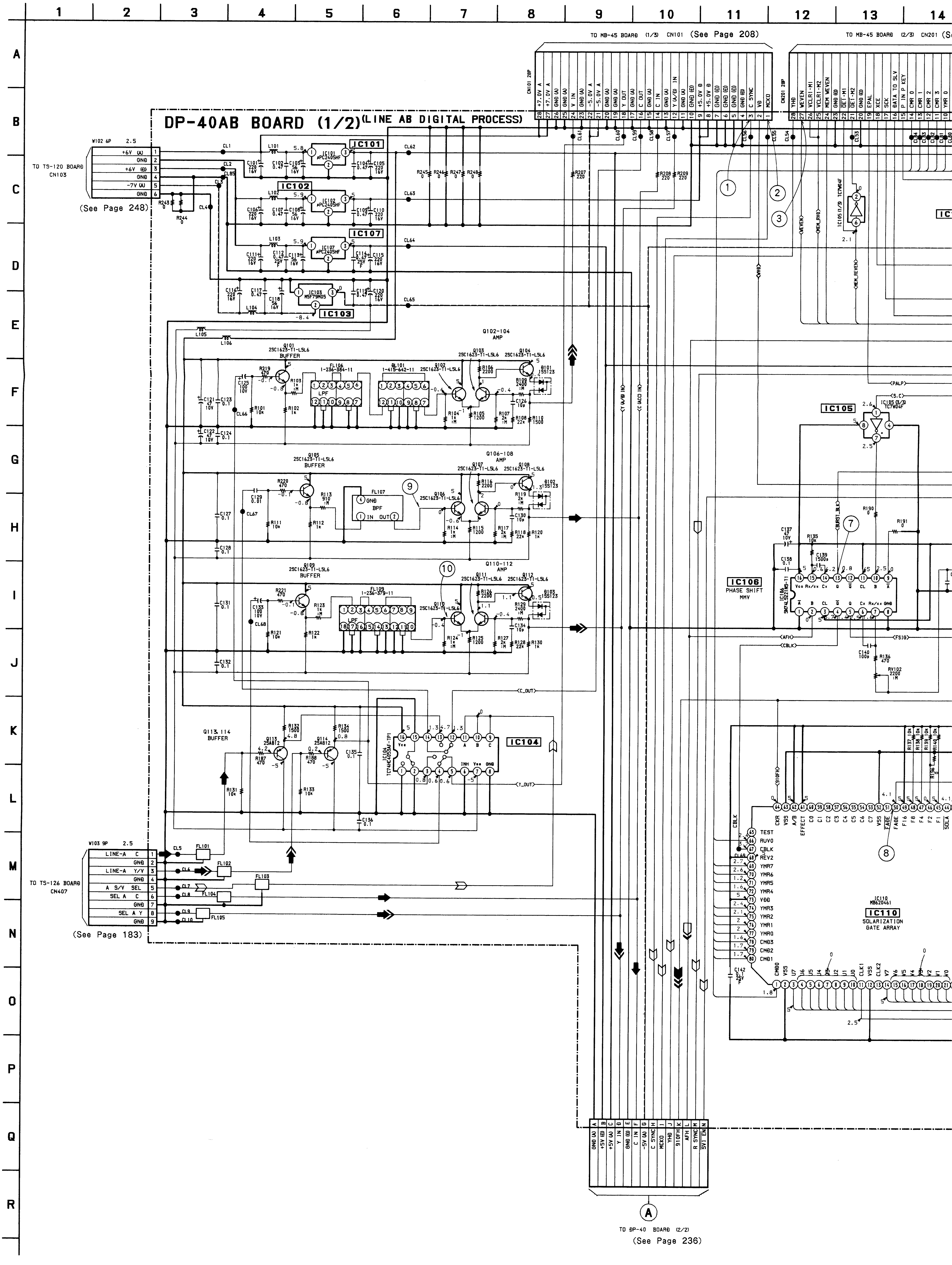

A
B
C
D
E
F
G
H
I
J
K
L
1
2
3
4
5
02
RV503
C593
L509
C584
L508
L507
C558
L518
C594
IC510
L110
C141
C573
L514
IC101
C104
C105
L101
C102
C103
IC107
C113
C115
C114
IC102
L102
C107
C108
C110
C109
C106
C111
C101
CN101
R248
R247
R207
DL101
R101
C125
R219
Q101
R102
R103
FL106
R104
Q102
R105
Q103
R108
R107
C126
R110
L106
C121
C123
C124
C120
C119
R111
R223
C129
Q105
FL107
GND
IN
OUT
R112
R113
C122
C128
IC103
C118
R114
Q106
R116
Q107
R118
C130
R117
R119
L105
R121
C133
FL109
R124
Q110
R125
R221
Q109
R122
R123
R128
C134
Q111
Q112
R127
R129
D103
R130
C132
Q114
Q113
R131
R134
R132
R133
R88
R87
C116
L104
W102
FL105
FL104
FL103
FL102
FL101
W103


DP-40B NO MOUNT
IC509
IC508
IC503
DP-40B NO MOUNT
IC505
IC506
TP108
TP109
TP110
TP111
TP112
TP113
TP114
IC510
IC511
IC512
IC105
IC106
IC504
IC110
DP-40B NO MOUNT
CN101
CN201
CN301
TP105
TP106
TP107
FL504
FL505
FL506
FL502
FL503
RV504
RV502
W104
IC507
IC502
X501
CV501
RV501
IC104
FL501
IC501
TP104
TP103
LP001
L503
L506
CN103
CN102
W105
W106
IN
GND
OUT
5
6
7
8
9
10
11
12
13
14

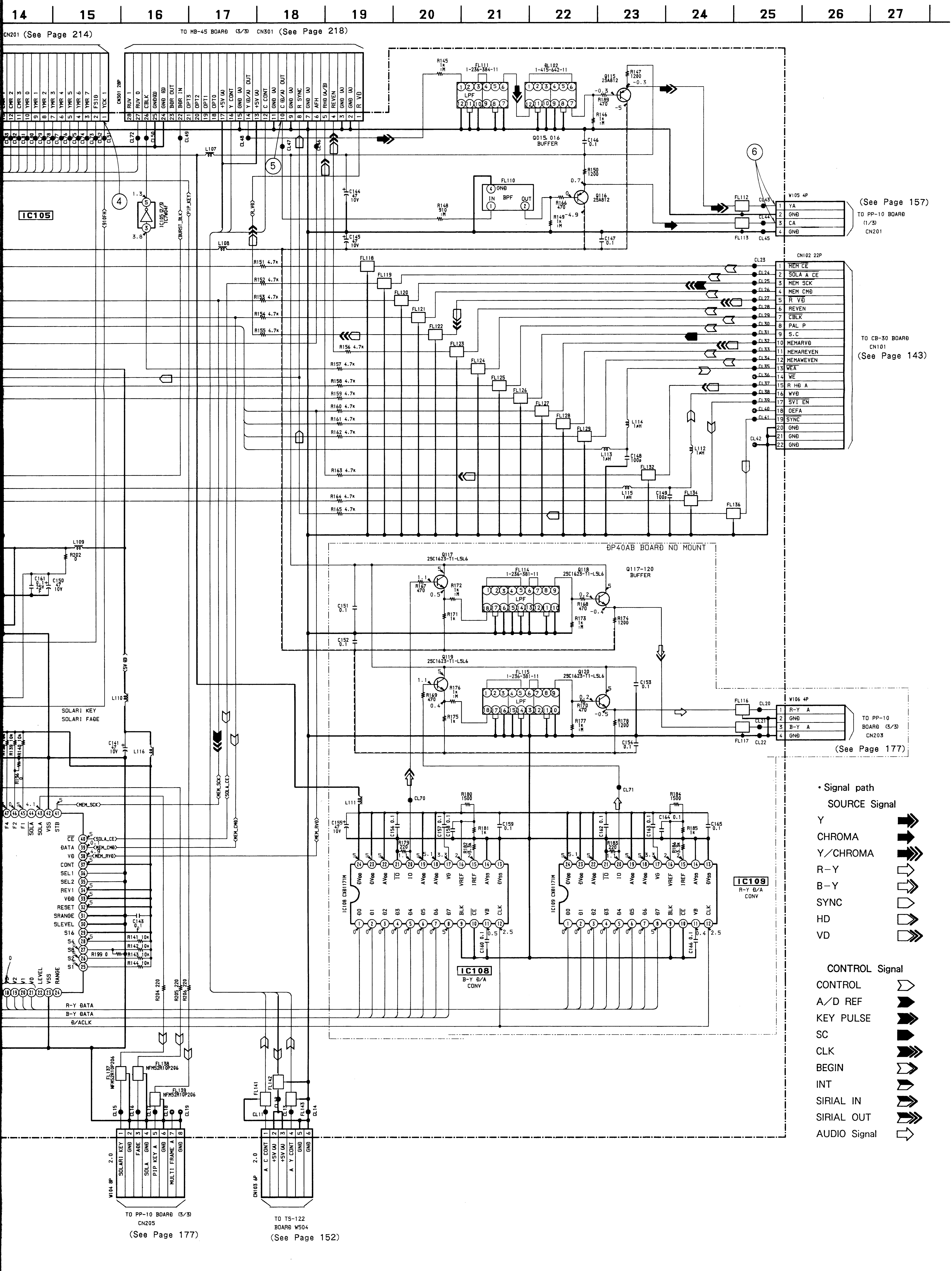

IC505
IC506
IC105
IC106
IC108
IC109
IC110
IC502
IC507
CN201
CN301
CN102
W104
W105
W106
W101
DP-40B NO MOUNT
DP-40B NO MOUNT
D-40B NO MOUNT
RV102
RV502
CV501
X501
OTH101
FL110
FL111
FL114
FL115
DL102
IN
GND
OUT
1-637-722-
11
10
11
12
13
14
15
16

## DP-40A (LINE A DIGITAL PROCESS) (1/2), DP-40B (LINE B DIGITAL PROCESS) (1/2) SCHEMATIC DIAGRAMS

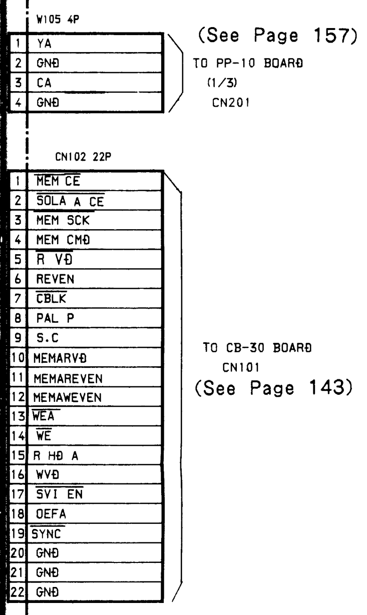
—Ref. No. DP-40A, DP-40B BOARDS : 8,000 Series—

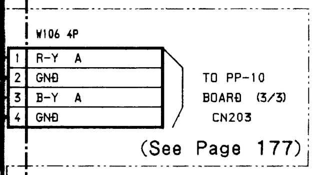


DP-40AB BOARD (1/2)(LINE AB DIGITAL PROCESS)
TO MB-45 BOARD (1/3) CN101 (See Page 208)
TO MB-45 BOARD (2/3) CN201
CN101 28P
CN201 28P
+7.0V A
GND (A)
V IN
-5.0V A
Y OUT
C OUT
C IN
Y (A/D) IN
+5.0V B
GND (D)
C SYNC
VD
MCKO
YHD
WEVEN
VCLR1·H1
VCLR1·H2
MEM WEVEN
DET·H1
DET·H2
EPAL
XCE
DATA TO SLV
SCK
P IN P KEY
CMR 0
CMR 1
CMR 2
CMR 3
YMR 0
W102 6P
+6V (A)
GND
+6V (D)
-7V (A)
TO TS-120 BOARD CN103
(See Page 248)
IC101 μPC2405HF
IC102 μPC2405HF
IC107 μPC2405HF
IC103 M5F79M05
Q101 2SC1623-T1-L5L6 BUFFER
Q102-104 AMP
FL106 1-236-384-11 LPF
DL101 1-415-642-11
Q105 2SC1623-T1-L5L6 BUFFER
Q106-108 AMP
FL107 BPF
Q109 2SC1623-T1-L5L6 BUFFER
Q110-112 AMP
FL109 1-236-379-11 LPF
Q113, 114 BUFFER
2SA812
IC104 TC74HC4053AF-TP1
<C_OUT>
<Y_OUT>
W103 9P
LINE-A C
LINE-A Y/V
A S/V SEL
SEL A C
SEL A Y
TO TS-126 BOARD CN407
(See Page 183)
IC105 TC7W04F
IC106 SN74LS221NS-T1 PHASE SHIFT MMV
IC110 MB620461 SOLARIZATION GATE ARRAY
<PALP>
<S.C>
<AFH>
<CBLK>
<FSIG>
<WEVEN>
<MEM_RVD>
<MEM_REVEN>
<BURST_BLK>
<910FH>
<WB>
<Y (A/D) IN>
<C (ACC) IN>
TEST
RUVO
CBLK
REV2
YMR7
YMR6
YMR5
YMR4
VDD
YMR3
YMR2
YMR1
YMR0
CMR3
CMR2
CMR1
CMR0
GND (A)
+5V (D)
+5V (A)
Y IN
GND (D)
C IN
-5V (A)
C SYNC
MCKO
YHD
910FH
AFH
R SYNC
SYI EN
TO DP-40 BOARD (2/2)
(See Page 236)


14 15 16 17 18 19 20 21 22 23 24 25 26 27
CN201 (See Page 214)
TO MB-45 BOARD (3/3) CN301 (See Page 218)
IC105
IC108
B-Y D/A CONV
IC109
R-Y D/A CONV
FL111 1-236-384-11 LPF
DL102 1-415-642-11
Q015, 016 BUFFER
FL110 BPF
Q115 2SA812
Q116 2SA812
W105 4P
YA
GND
CA
(See Page 157)
TO PP-10 BOARD (1/3) CN201
CN102 22P
MEM CE
SOLA A CE
MEM SCK
MEM CMD
R VD
REVEN
CBLK
PAL P
S.C
MEMARVD
MEMAREVEN
MEMAWEVEN
WEA
WE
R HD A
WVD
SVI EN
DEFA
SYNC
TO CB-30 BOARD CN101
(See Page 143)
DP40AB BOARD NO MOUNT
Q117 2SC1623-T1-L5L6
Q118 2SC1623-T1-L5L6
Q117-120 BUFFER
FL114 1-236-381-11 LPF
Q119 2SC1623-T1-L5L6
Q120 2SC1623-T1-L5L6
FL115 1-236-381-11 LPF
W106 4P
R-Y A
B-Y A
TO PP-10 BOARD (3/3) CN203
(See Page 177)
SOLARI KEY
SOLARI FADE
R-Y DATA
B-Y DATA
D/ACLK
W104 8P
SOLARI KEY
FADE
SOLA
PIP KEY A
MULTI FRAME A
TO PP-10 BOARD (3/3) CN205
(See Page 177)
CN103 6P
A C CONT
+5V (A)
A Y CONT
TO TS-122 BOARD W504
(See Page 152)
• Signal path
SOURCE Signal
Y
CHROMA
Y/CHROMA
R-Y
B-Y
SYNC
HD
VD
CONTROL Signal
CONTROL
A/D REF
KEY PULSE
SC
CLK
BEGIN
INT
SIRIAL IN
SIRIAL OUT
AUDIO Signal

## DP-40A/B BOARD (1/2)


W105 4P
1 YA
2 GND
3 CA
4 GND
(See Page 157)
TO PP-10 BOARD
(1/3)
CN201
CN102 22P
1 MEM CE
2 SOLA A CE
3 MEM SCK
4 MEM CMD
5 R VD
6 REVEN
7 CBLK
8 PAL P
9 S.C
10 MEMARVD
11 MEMAREVEN
12 MEMAWEVEN
13 WEA
14 WE
15 R HD A
16 WVD
17 SVI EN
18 OEFA
19 SYNC
20 GND
21 GND
22 GND
TO CB-30 BOARD
CN101
(See Page 143)


W106 4P
1 R-Y A
2 GND
3 B-Y A
4 GND
TO PP-10
BOARD (3/3)
CN203
(See Page 177)

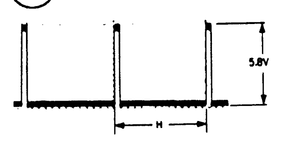
- Signal path

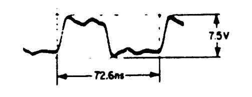
SOURCE Signal

| | |
|---|---|
| Y | ➡» |
| CHROMA | ➡ |
| Y/CHROMA | ➡»» |
| R-Y | ⇨ |
| B-Y | ⇨» |
| SYNC | ▷ |
| HD | ▷» |
| VD | ▷»» |

CONTROL Signal

| | |
|---|---|
| CONTROL | ▷ |
| A/D REF | ▶ |
| KEY PULSE | ▶» |
| SC | ▶ |
| CLK | ▶»» |
| BEGIN | ▷» |
| INT | ▶ |
| SIRIAL IN | ▶» |
| SIRIAL OUT | ▶»» |
| AUDIO Signal | ⇨ |

①


②


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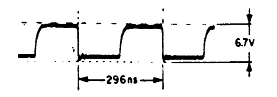

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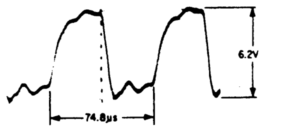

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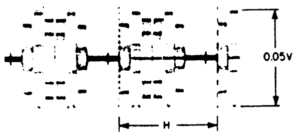

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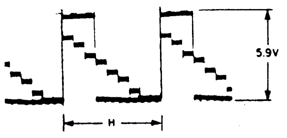

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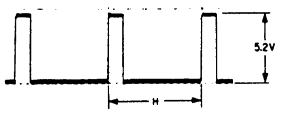
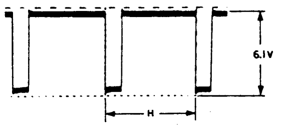


⑧


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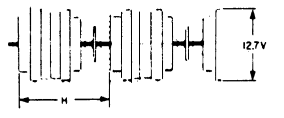

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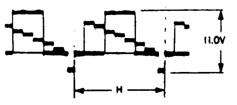
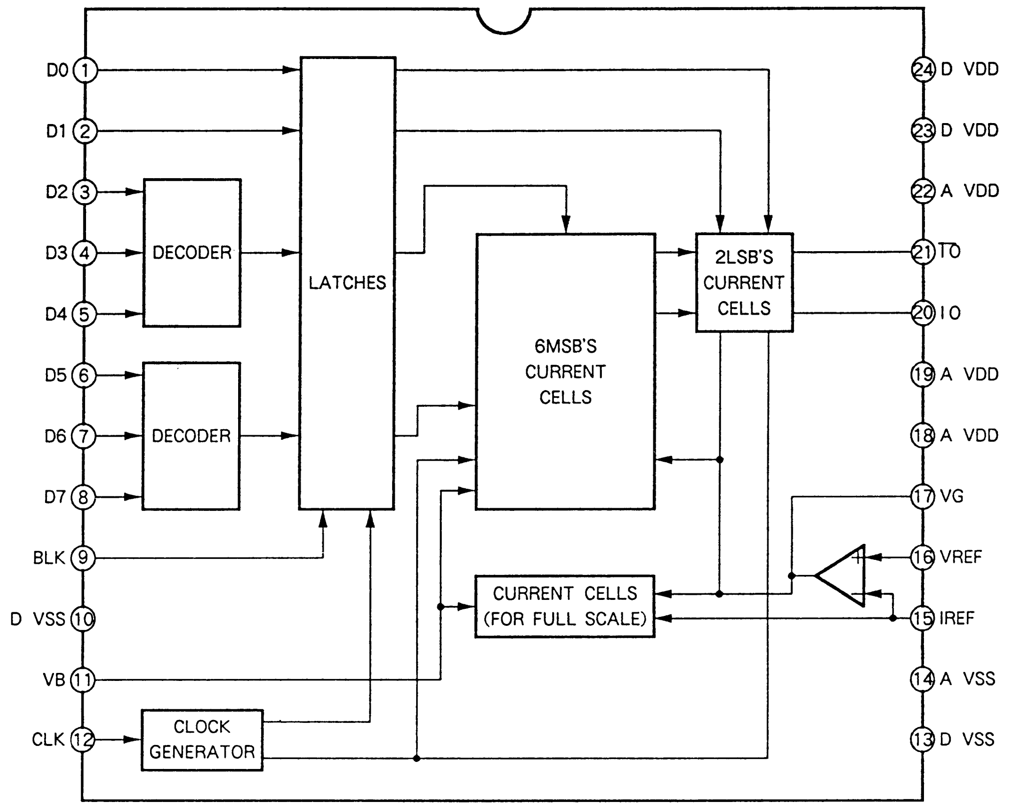


IC108 CXD1171M


D0 1
D1 2
D2 3
D3 4
D4 5
D5 6
D6 7
D7 8
BLK 9
D VSS 10
VB 11
CLK 12
DECODER
DECODER
LATCHES
CLOCK GENERATOR
6MSB'S CURRENT CELLS
2LSB'S CURRENT CELLS
CURRENT CELLS (FOR FULL SCALE)
24 D VDD
23 D VDD
22 A VDD
21 IO
20 IO
19 A VDD
18 A VDD
17 VG
16 VREF
15 IREF
14 A VSS
13 D VSS

When indicating parts by reference number, please include the board name.

< DIODE >

| | | | | |
|---|---|---|---|---|
| D101 | 8-719-800-76 | DIODE | 1SS226 | |
| D102 | 8-719-800-76 | DIODE | 1SS226 | |
| D103 | 8-719-800-76 | DIODE | 1SS226 | |

< IC >

| | | | | |
|---|---|---|---|---|
| IC104 | 8-759-230-XX | IC | TC74HC4053AF-TP1 | |
| IC105 | 8-759-242-74 | IC | TC7W04F-TE12L | |
| IC106 | 8-759-907-81 | IC | SN74LS221NS | |
| IC108 | 8-752-334-64 | IC | CXD1171M | (DP-40A) |
| IC109 | 8-752-334-64 | IC | CXD1171M | (DP-40A) |
| IC110 | 8-759-505-98 | IC | MB620461 | |
| IC501 | 8-752-333-24 | IC | CXL1506M | |
| IC502 | 8-759-603-54 | IC | M51271FP | |
| IC503 | 8-759-631-06 | IC | M50541FP | |
| IC504 | 8-759-633-04 | IC | M52686AFP | |
| IC505 | 8-759-630-63 | IC | M5M4C500L-10K | |
| IC506 | 8-759-633-96 | IC | M52682FP | |
| IC507 | 8-759-907-81 | IC | SN74LS221NS | |
| IC508 | 8-759-100-93 | IC | uPC393G2 | |
| IC509 | 8-759-907-81 | IC | SN74LS221NS | |
| IC510 | 8-759-239-23 | IC | TC74HC86AF | |
| IC511 | 8-759-239-23 | IC | TC74HC86AF | |
| IC512 | 8-759-232-74 | IC | TC74HC163AF | |

< TRANSISTOR >

| | | | | |
|---|---|---|---|---|
| Q101 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q102 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q103 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q104 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q105 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q106 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q107 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q108 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q109 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q110 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q111 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q112 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q113 | 8-729-216-22 | TRANSISTOR | 2SA1162 | |
| Q114 | 8-729-216-22 | TRANSISTOR | 2SA1162 | |
| Q115 | 8-729-216-22 | TRANSISTOR | 2SA1162 | |
| Q116 | 8-729-216-22 | TRANSISTOR | 2SA1162 | |
| Q117 | 8-729-100-66 | TRANSISTOR | 2SC1623 | (DP-40A) |
| Q118 | 8-729-100-66 | TRANSISTOR | 2SC1623 | (DP-40A) |
| Q119 | 8-729-100-66 | TRANSISTOR | 2SC1623 | (DP-40A) |
| Q120 | 8-729-100-66 | TRANSISTOR | 2SC1623 | (DP-40A) |
| Q501 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q502 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q503 | 8-729-216-22 | TRANSISTOR | 2SA1162 | |
| Q504 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q505 | 8-729-216-22 | TRANSISTOR | 2SA1162 | |
| Q506 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q507 | 8-729-216-22 | TRANSISTOR | 2SA1162 | |
| Q508 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q509 | 8-729-216-22 | TRANSISTOR | 2SA1162 | |
| Q510 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q511 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q512 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q513 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q514 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q515 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q516 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q517 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q518 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q519 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q520 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |
| Q521 | 8-729-100-66 | TRANSISTOR | 2SC1623 | |

For the DP-40A/40B board, use the two same circuit boards as for LINE-A and for LINE-B.
The different boards for LINE-A/B are provided as replacement parts. The different points are indicated on the circuit diagram and the surface of the circuit by the dotted line.

For printed wiring boards :

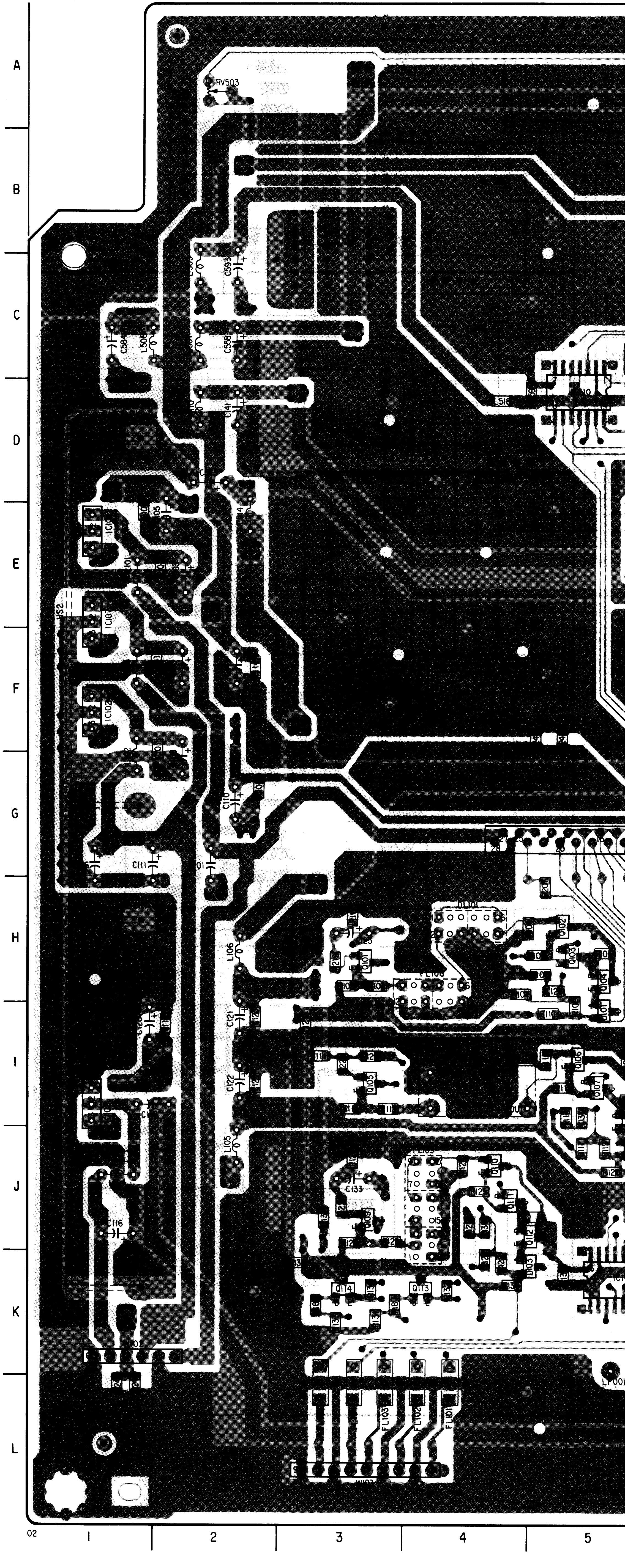
- ○— : indicates a lead wire mounted on the componet side.
- ●— : indicates a lead wire mounted on the printed side.
- ● : Through hole.
- ■ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

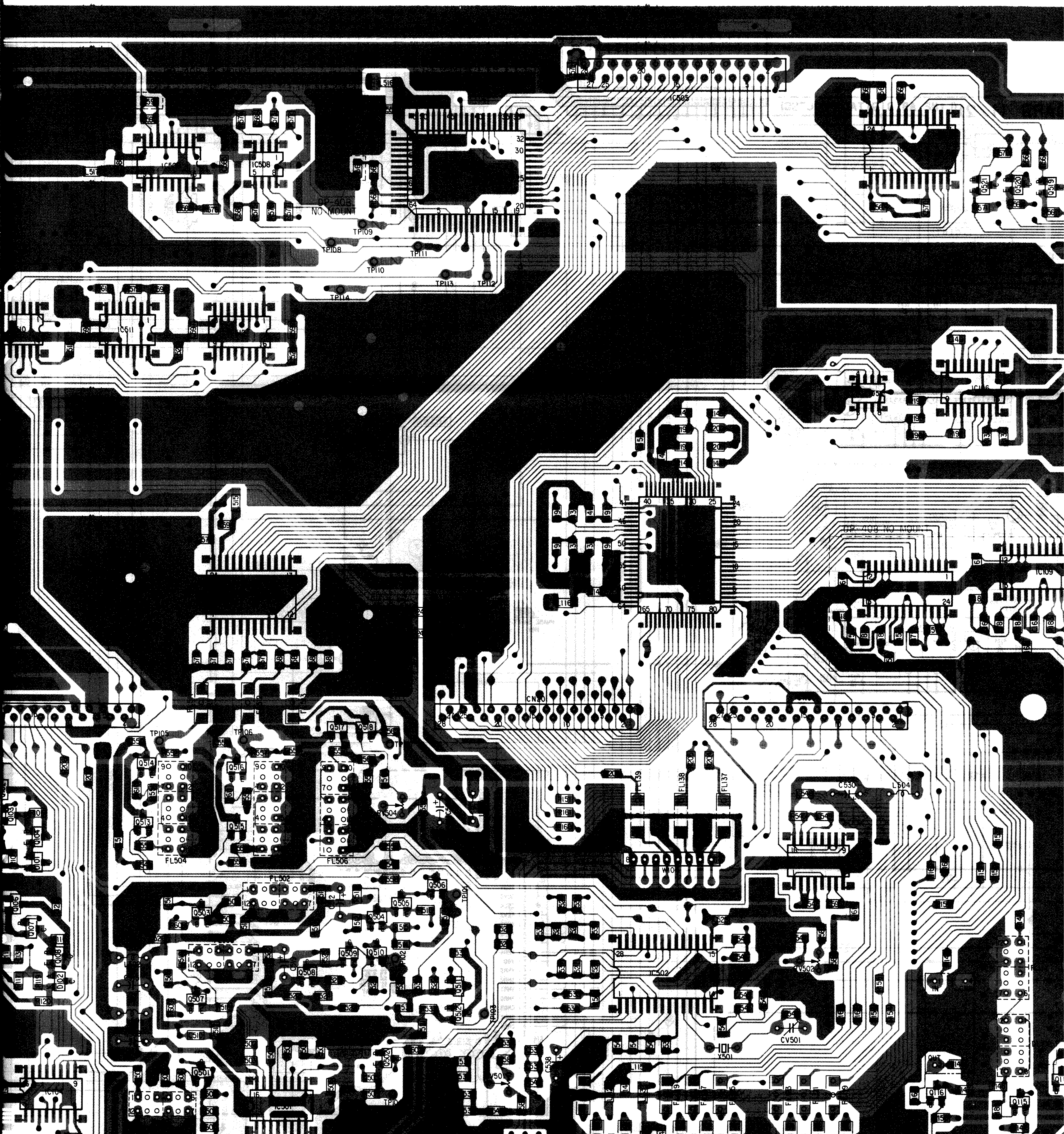
When indicating parts by reference number, please include the board name.

## DP-40 BOARD

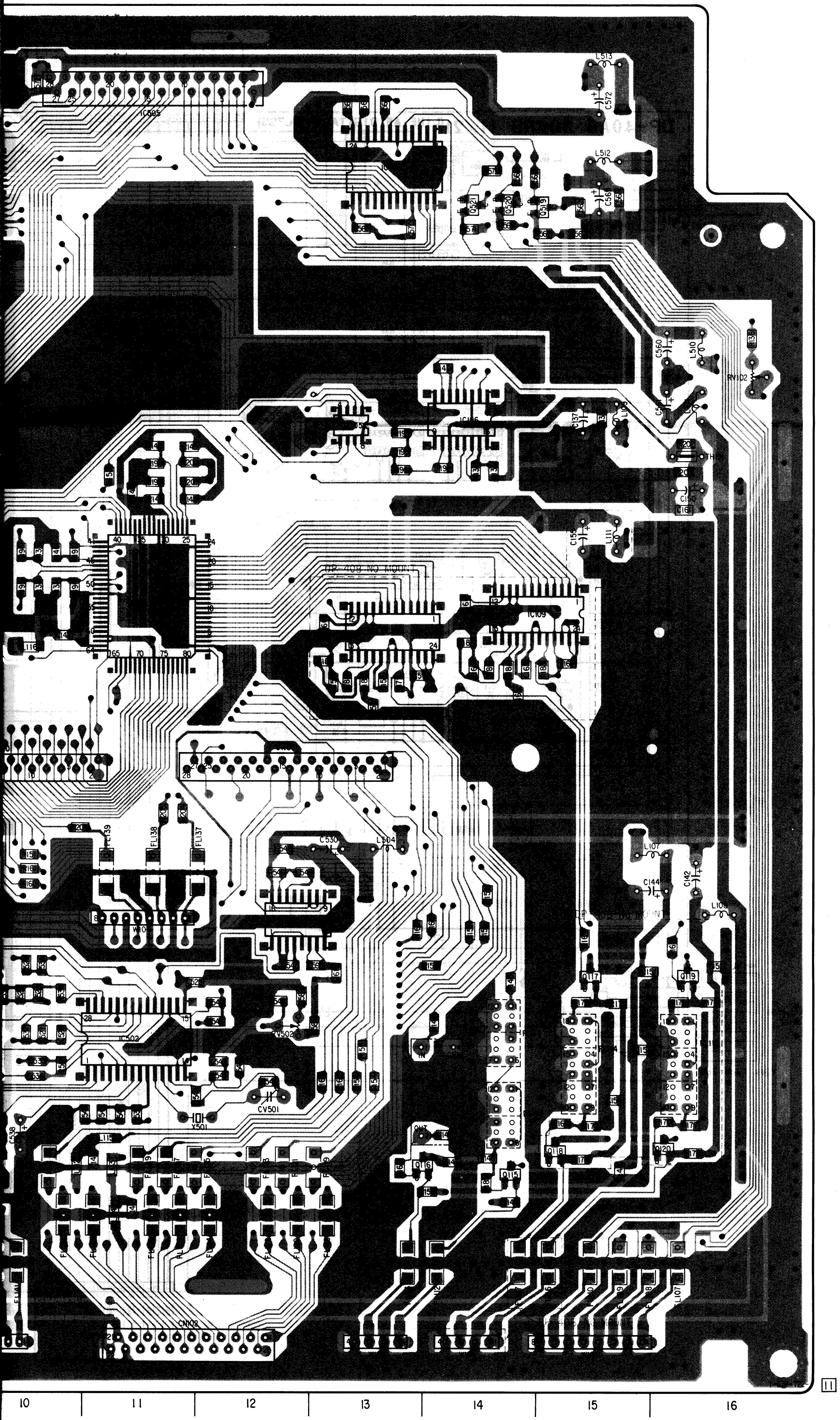
| | |
|---|---|
| D101 | I-5 |
| D102 | J-5 |
| D103 | K-4 |
| IC101 | E-1 |
| IC102 | F-1 |
| IC103 | I-1 |
| IC104 | K-5 |
| IC105 | D-13 |
| IC106 | D-14 |
| IC107 | E-1 |
| IC108 | F-13 |
| IC109 | F-14 |
| IC110 | F-11 |
| IC501 | K-7 |
| IC502 | J-11 |
| IC503 | B-9 |
| IC504 | F-7 |
| IC505 | A-11 |
| IC506 | B-13 |
| IC507 | I-12 |
| IC508 | B-7 |
| IC509 | B-6 |
| IC510 | D-5 |
| IC511 | D-6 |
| IC512 | D-7 |
| Q101 | H-3 |
| Q102 | H-5 |
| Q103 | H-5 |
| Q104 | H-5 |
| Q105 | I-3 |
| Q106 | I-5 |
| Q107 | I-5 |
| Q108 | I-5 |
| Q109 | J-3 |
| Q110 | J-4 |
| Q111 | J-4 |
| Q112 | J-4 |
| Q113 | K-4 |
| Q114 | K-3 |
| Q115 | K-14 |
| Q116 | K-13 |
| Q117 | I-15 |
| Q118 | K-15 |
| Q119 | I-16 |
| Q120 | K-16 |
| Q501 | K-7 |
| Q502 | J-8 |
| Q503 | I-7 |
| Q504 | I-8 |
| Q505 | I-8 |
| Q506 | I-9 |
| Q507 | J-7 |
| Q508 | J-8 |
| Q509 | I-8 |
| Q510 | I-8 |
| Q511 | J-9 |
| Q512 | J-9 |
| Q513 | H-6 |
| Q514 | H-6 |
| Q515 | H-7 |
| Q516 | H-7 |
| Q517 | G-8 |
| Q518 | G-8 |
| Q519 | B-14 |
| Q520 | B-14 |
| Q521 | B-14 |

DP-40 BOARD (A/B)




IC505
IC508
IC511
DP-408 NO MOUNT
TP108
TP109
TP110
TP111
TP112
TP113
TP114
TP105
TP106
CN101
FL504
FL505
FL502
RV504
IC502
IC501
IC104
IC109
C530
L504
RV502
CV501
X501
C538
CN102
LP001
L505
L506
5
6
7
8
9
10
11
12
13
14

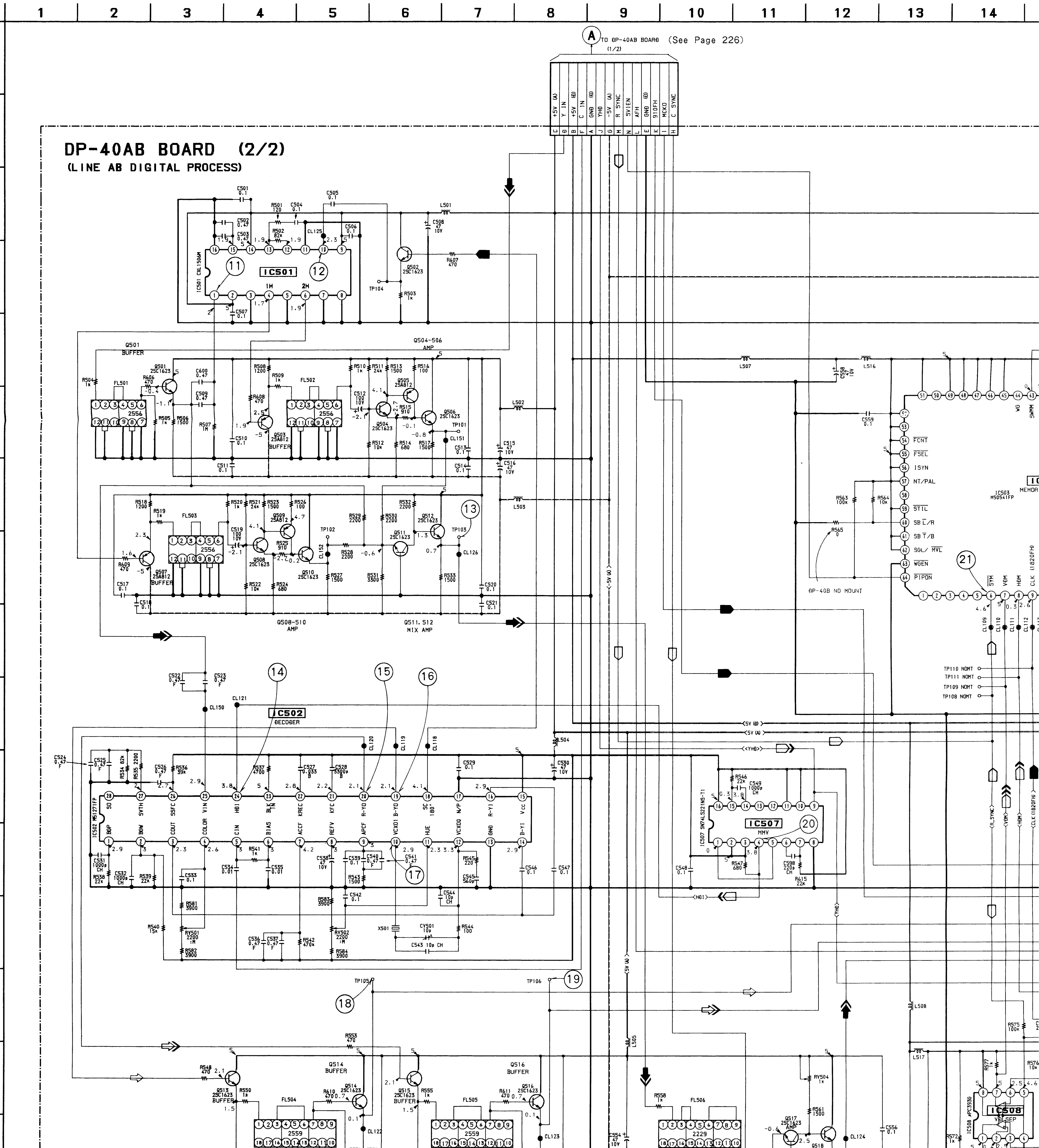
DIGITAL PROCESS DIGITAL PROCES


IC505
L513
C572
L512
C561
Q521
Q520
Q519
C560
L510
RV102
IC116
C137
C559
TH
C158
C160
C155
L111
OP 409 NO MOUNT
IC109
L116
FL139
FL138
FL137
C530
L504
W10
IC502
CV502
CV501
X501
C538
L115
L107
C144
C142
L108
Q117
Q119
Q116
Q115
Q118
Q120
CN102
FL107
11
10
11
12
13
14
15
16

DIGITAL PROCESS DIGITAL PROCESS

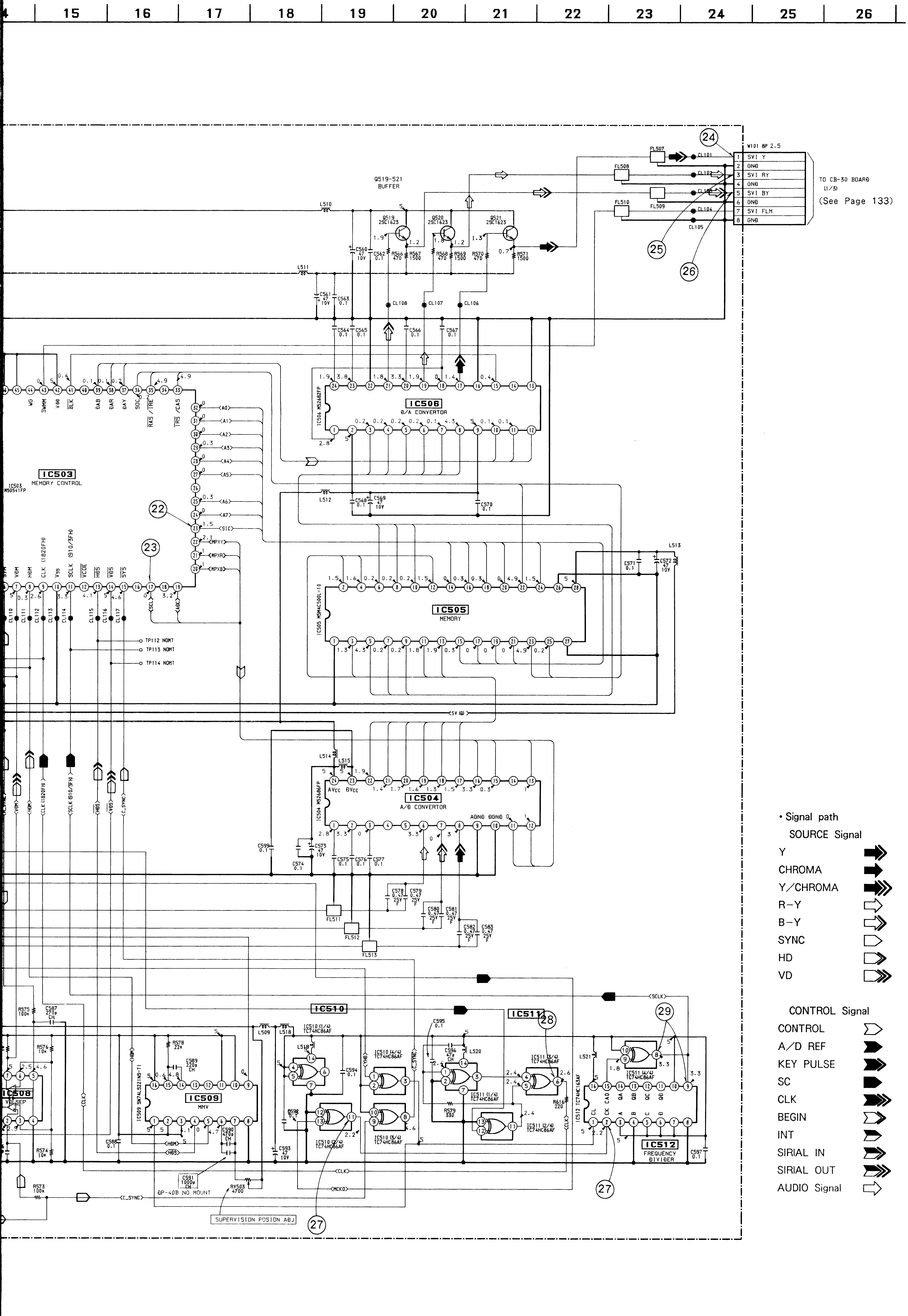
## DP-40A (LINE A DIGITAL PROCESS) (2/2), DP-40B (LINE B DIGITAL PROCESS) (2/2) SCHEMATIC DIAGRAMS

—Ref. No. DP-40A, DP-40B BOARDS : 8,000 Series—

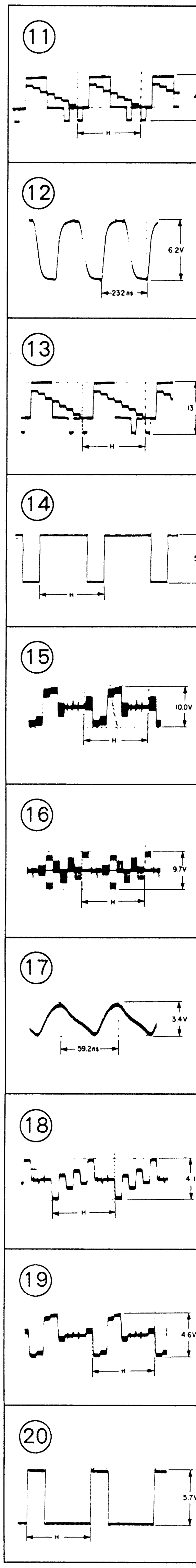


DP-40AB BOARD (2/2)
(LINE AB DIGITAL PROCESS)
A TO DP-40AB BOARD (1/2) (See Page 226)
+5V (A)
Y IN
+5V (D)
C IN
GND (D)
YHD
-5V (A)
R SYNC
SVIEN
AFH
GND (D)
910FH
MCKO
C SYNC
IC501 CXL1506M
IC501
1H
2H
Q502 2SC1623
TP104
Q501 BUFFER
FL501 2556
FL502 2556
FL503 2556
Q503 2SA812 BUFFER
Q504-506 AMP
Q505 2SA812
Q504 2SC1623
Q506 2SC1623
TP101
CL151
Q507 2SA812 BUFFER
Q508-510 AMP
Q511, 512 MIX AMP
TP102
TP103
CL126
IC502 M51271FP
DECODER
CL150
CL121
CL120
CL119
CL118
X501
CY501 10p
C543 10p CH
RV501
RV502
IC507 SN74LS221NS-T1
IC507
MMV
IC503 M50541FP
MEMORY
FCNT
FSEL
ISYN
NT/PAL
STIL
SB L/R
SB T/B
SGL/ MVL
WGEN
PIPON
SYM
VDM
HDM
CLK (1820FH)
DP-40B NO MOUNT
TP110 NOMT
TP111 NOMT
TP109 NOMT
TP108 NOMT
<5V (D)>
<5V (A)>
<<YHD>>
<HD1>
TP105
TP106
Q513 2SC1623 BUFFER
Q514 BUFFER
Q515 2SC1623 BUFFER
Q516 BUFFER
FL504 2559
FL505 2559
FL506 2229
Q517 2SC1623 AMP
Q518 2SC1623 AMP
RV504
CL122
CL123
CL124
TP107
IC508 μPC3930
V.SEP
L501
L502
L503
L504
L505
L506
L507
L508
L516
L517
11
12
13
14
15
16
17
18
19
20
21

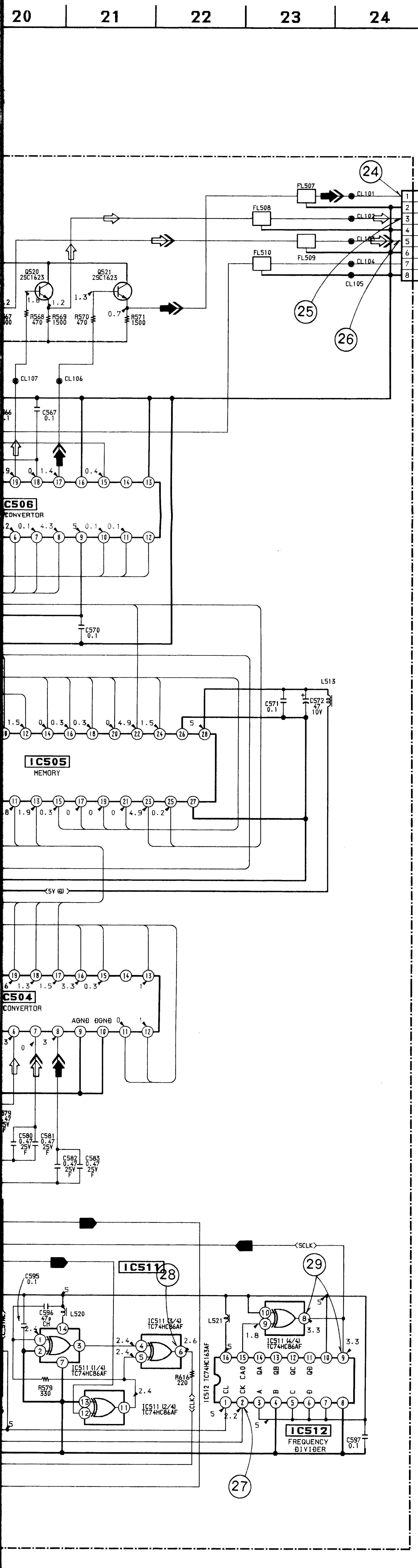
## DP-40A／B BOAR


15
16
17
18
19
20
21
22
23
24
25
26
W101 8P 2.5
1 SVI Y
2 GND
3 SVI RY
4 GND
5 SVI BY
6 GND
7 SVI FLM
8 GND
TO CB-30 BOARD (1/3)
(See Page 133)
FL507
FL508
FL509
FL510
CL101
CL102
CL103
CL104
CL105
Q519-521 BUFFER
Q519 2SC1623
Q520 2SC1623
Q521 2SC1623
L510
L511
L512
L513
CL106
CL107
CL108
IC506 M52682FP
IC506 D/A CONVERTOR
IC503 MEMORY CONTROL
IC503 M50541FP
IC505 M5M4C500L-10
IC505 MEMORY
IC504 M52686FP
IC504 A/D CONVERTOR
AVcc DVcc
AGND DGND
<MPXY>
<MPXR>
<MPXB>
<SIC>
<A0>
<A1>
<A2>
<A3>
<A4>
<A5>
<A6>
<A7>
RAS／TRE
TRS／CAS
<5V (D)>
TP112 NOMT
TP113 NOMT
TP114 NOMT
CLK (1820FH)
SCLK (910/3FH)
<VBK>
<HDM>
<HBS>
<VBS>
<C_SYNC>
<SCLK>
<CLK>
<MCKO>
FL511
FL512
FL513
IC508 V/D SEP
IC509 SN74LS221N5-T1
IC509 MMV
IC510
IC510 (1/4) TC74HC86AF
IC510 (2/4) TC74HC86AF
IC510 (3/4) TC74HC86AF
IC510 (4/4) TC74HC86AF
IC511
IC511 (1/4) TC74HC86AF
IC511 (2/4) TC74HC86AF
IC511 (3/4) TC74HC86AF
IC511 (4/4) TC74HC86AF
IC512 TC74HC163AF
IC512 FREQUENCY DIVIDER
L509
L518
L519
L520
L521
RV503 4700
DP-40B NO MOUNT
SUPERVISION POSION ADJ
㉒
㉓
㉔
㉕
㉖
㉗
㉘
㉙

- Signal path
  - SOURCE Signal
    - Y ➡
    - CHROMA ➡
    - Y／CHROMA ➡
    - R−Y ⇨
    - B−Y ⇨
    - SYNC ⇨
    - HD ⇨
    - VD ⇨
  - CONTROL Signal
    - CONTROL ⇨
    - A/D REF ➡
    - KEY PULSE ➡
    - SC ➡
    - CLK ➡
    - BEGIN ⇨
    - INT ➡
    - SIRIAL IN ➡
    - SIRIAL OUT ➡
    - AUDIO Signal ⇨

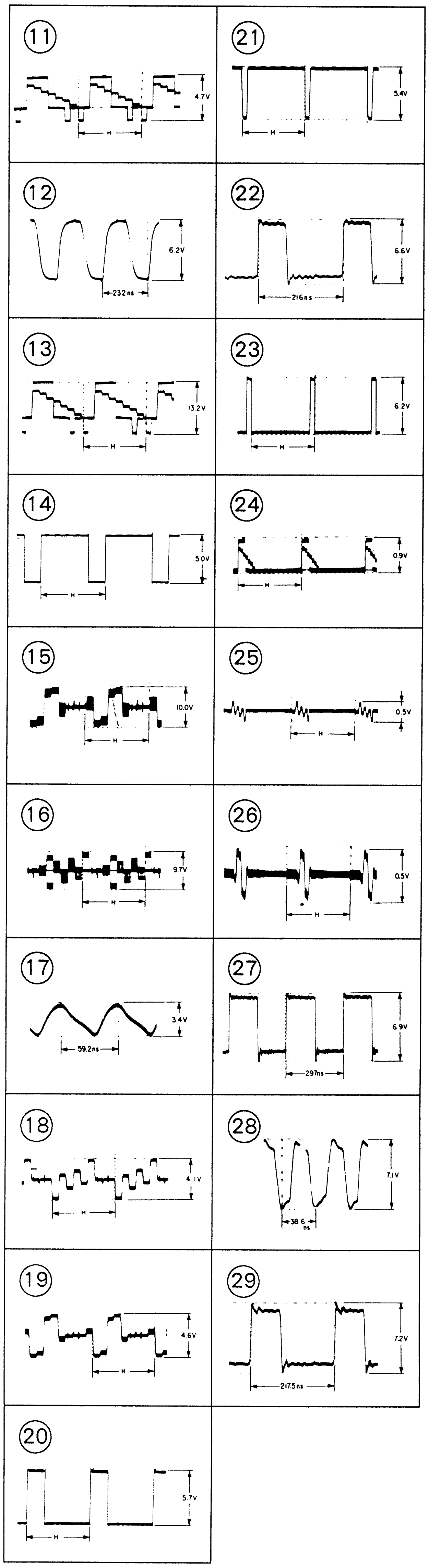


When indicating parts by
ence number, please i
the board name.


20
21
22
23
24
25
26
FL507
FL508
FL509
FL510
CL101
CL102
CL103
CL104
CL105
CL106
CL107
W101 8P 2.5
1 SVI Y
2 GND
3 SVI RY
4 GND
5 SVI BY
6 GND
7 SVI FLM
8 GND
Q520 2SC1623
Q521 2SC1623
R568 470
R569 1500
R570 470
R571 1500
C567 0.1
C570 0.1
C571 0.1
C572 47 10V
L513
IC506 CONVERTOR
IC505 MEMORY
IC504 CONVERTOR
<5V (D)>
AGND DGND
C580 0.47 25V F
C581 0.47 25V F
C582 0.47 25V F
C583 0.47 25V F
C595 0.1
C596 47p CH
L520
L521
R579 330
R616 220
IC511 (1/4) TC74HC86AF
IC511 (2/4) TC74HC86AF
IC511 (3/4) TC74HC86AF
IC511 (4/4) TC74HC86AF
IC512 TC74HC163AF
IC512 FREQUENCY DIVIDER
C597 0.1
<SCLK>
<CLK>
CL CK CA0 QA QB QC QD
A B C D
⑪ ㉔ ㉕ ㉖ ㉗ ㉘ ㉙

TO CB-30 BOARD (1/3)
(See Page 133)

## DP-40A/B BOARD (2/2)



- Signal path

SOURCE Signal
Y ➡
CHROMA ➡
Y/CHROMA ➡
R-Y ⇨
B-Y ⇨
SYNC ▷
HD ▷
VD ▷

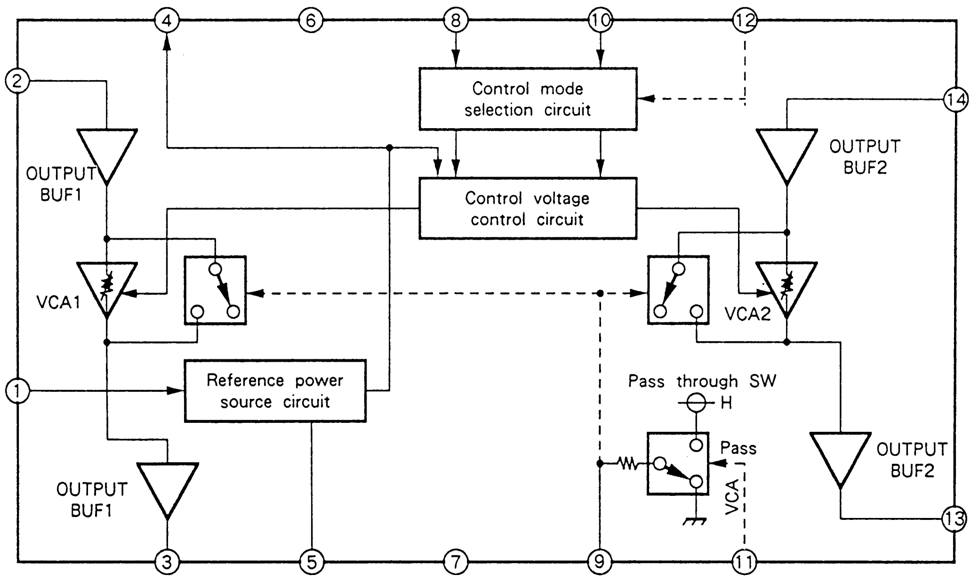
CONTROL Signal
CONTROL ▷
A/D REF ➡
KEY PULSE ➡
SC ➡
CLK ➡
BEGIN ▷
INT ➡
SIRIAL IN ➡
SIRIAL OUT ➡
AUDIO Signal ⇨

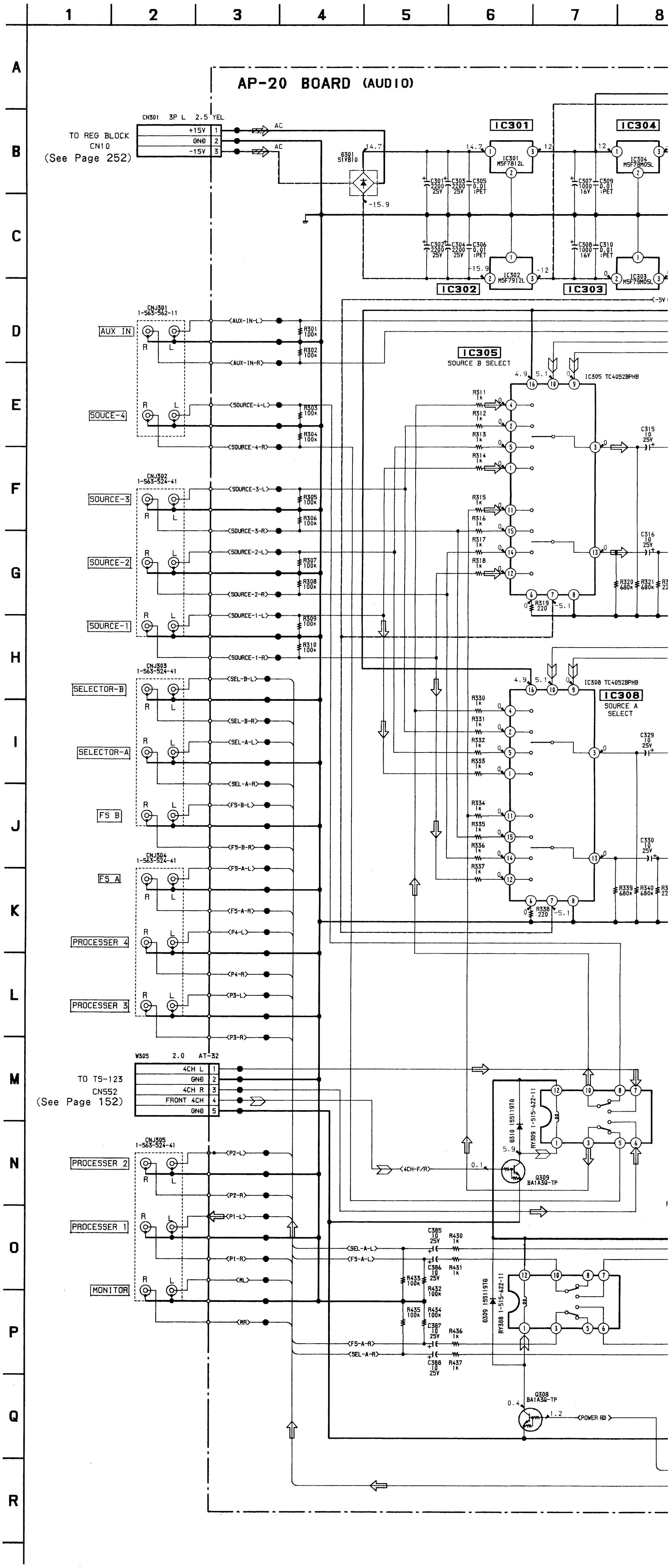
When indicating parts by reference number, please include the board name.

# AP-20 (AUDIO) SCHEMATIC DIAGRAM

—Ref. No. AP-20 BOARD : 1,000 Series—

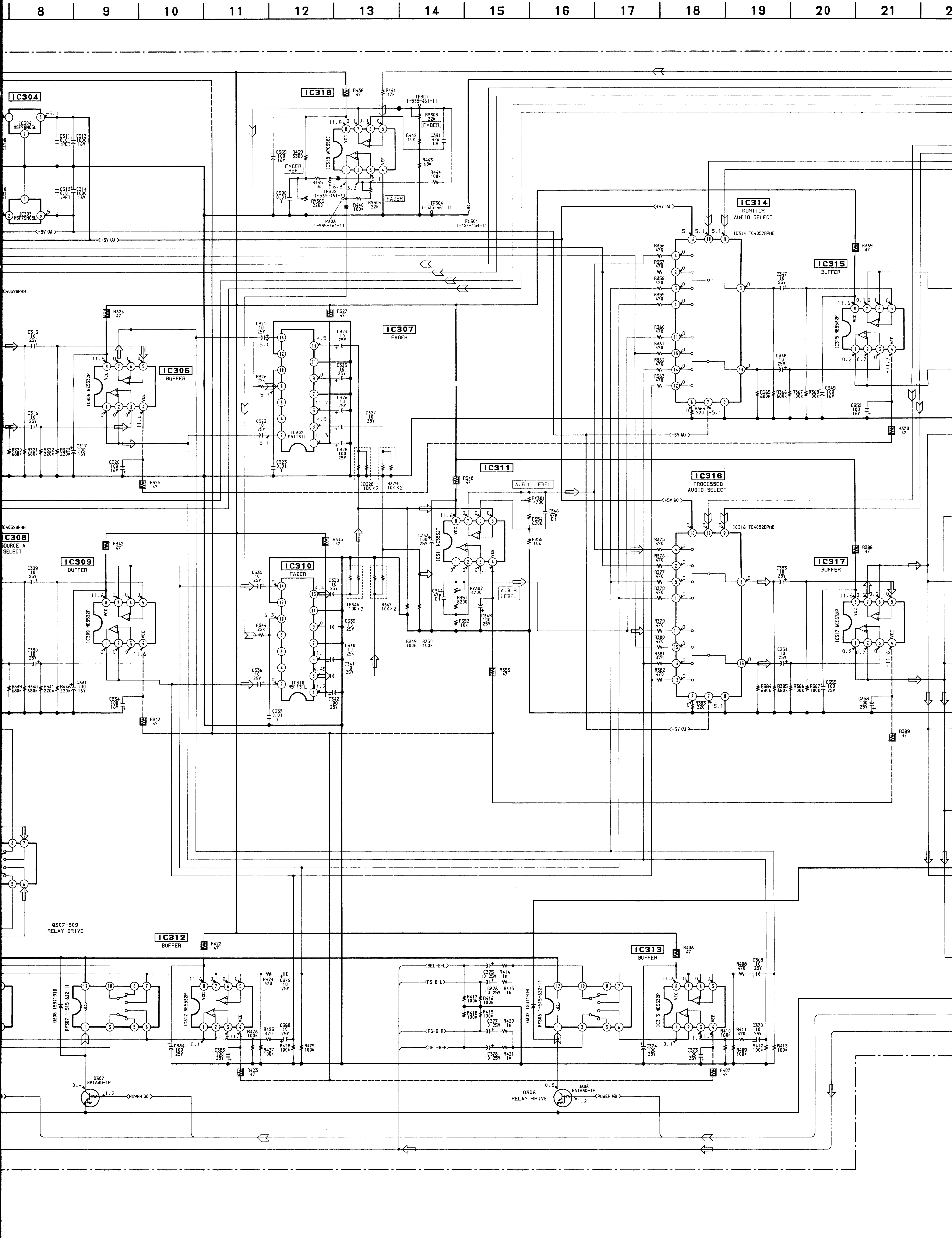
**IC307 M51131L**

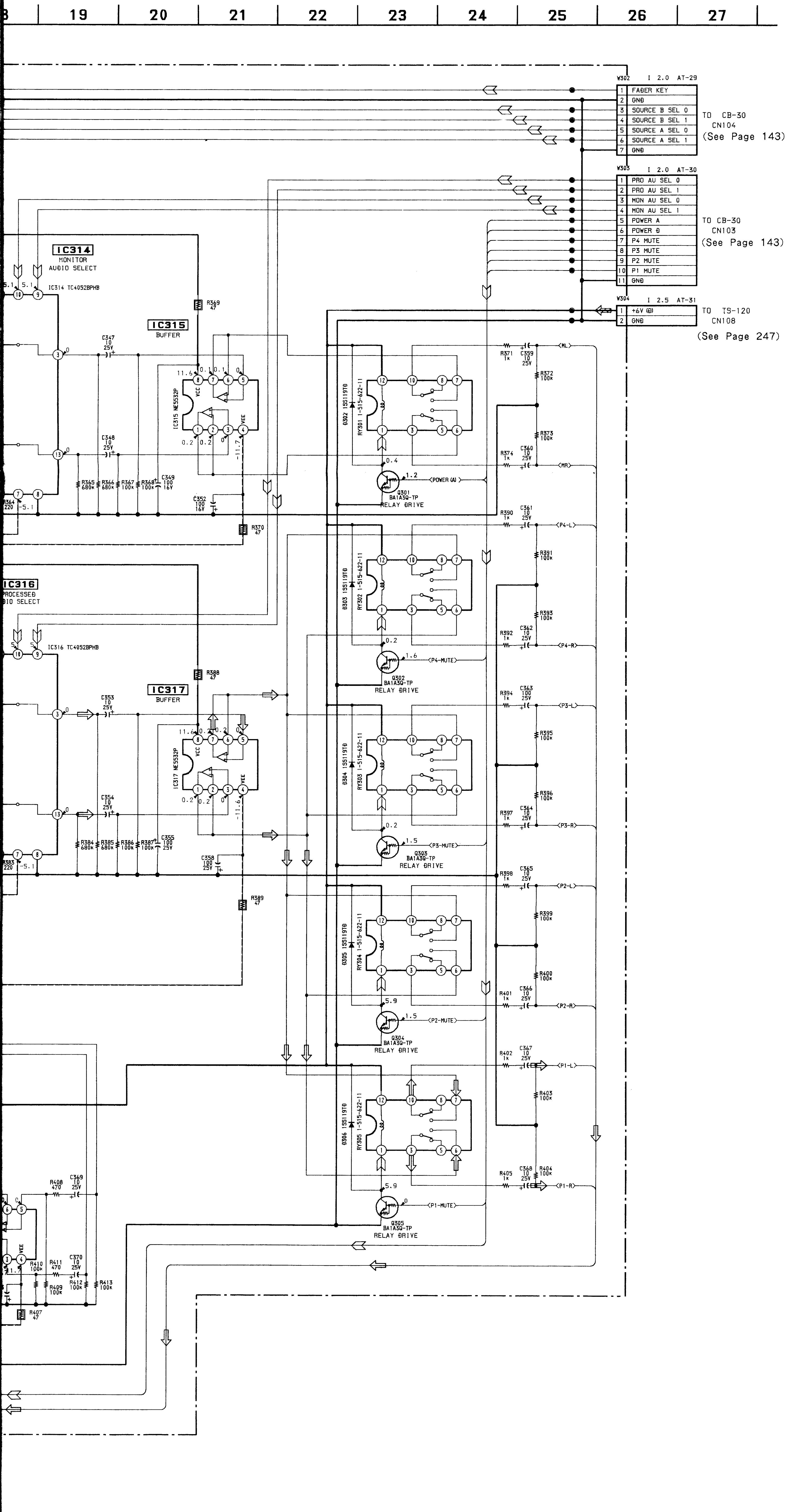

Control mode selection circuit
Control voltage control circuit
OUTPUT BUF1
OUTPUT BUF2
VCA1
VCA2
Reference power source circuit
Pass through SW
H
Pass
VCA
OUTPUT BUF2
OUTPUT BUF1


1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
AP-20 BOARD (AUDIO)
CN301 3P L 2.5 YEL
TO REG BLOCK CN10 (See Page 252)
+15V
GND
-15V
AC
D301 S1VB10
IC301 M5F7812L
IC302 M5F7912L
IC303 M5F79M05L
IC304 M5F78M05L
CNJ301 1-563-562-11
AUX IN
SOUCE-4
CNJ302 1-563-524-41
SOURCE-3
SOURCE-2
SOURCE-1
CNJ303 1-563-524-41
SELECTOR-B
SELECTOR-A
FS B
CNJ304 1-563-524-41
FS A
PROCESSER 4
PROCESSER 3
W305 2.0 AT-32
TO TS-123 CN552 (See Page 152)
4CH L
GND
4CH R
FRONT 4CH
GND
CNJ305 1-563-524-41
PROCESSER 2
PROCESSER 1
MONITOR
IC305 SOURCE B SELECT
IC305 TC4052BPHB
IC308 TC4052BPHB
IC308 SOURCE A SELECT
RY309 1-515-622-11
RY308 1-515-622-11
Q309 BA1A3Q-TP
Q308 BA1A3Q-TP
D310 1SS119TD
D309 1SS119TD
<4CH-F/R>
<POWER ON>

- Signal path
  CONTROL Signal
  CONTROL ⇒
  AUDIO Signal ⇨

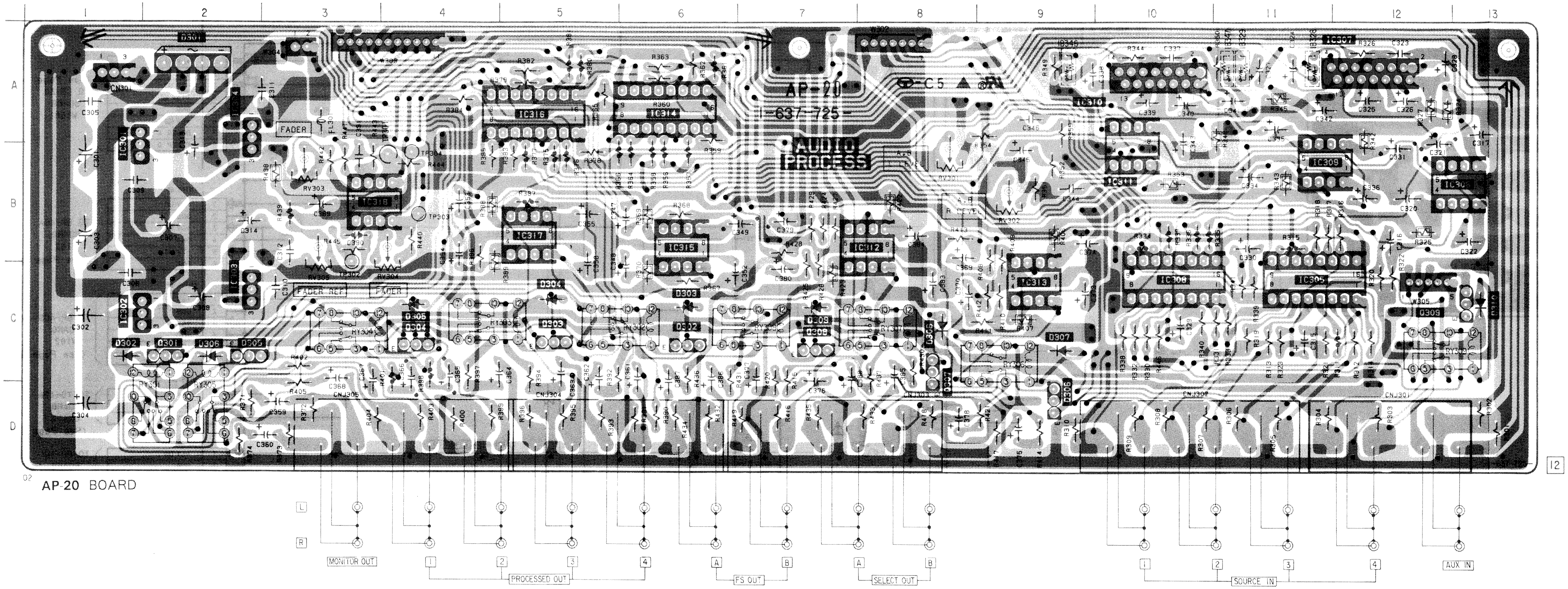
When indicating parts by reference number, please include the board name.


8
9
10
11
12
13
14
15
16
17
18
19
20
21
IC304
IC304 MSF78M05L
IC303 MSF79M05L
IC318
IC318 μPC358C
FADER REF
FADER
TP301 1-535-461-11
TP302 1-535-461-11
TP303 1-535-461-11
TP304 1-535-461-11
FL301 1-424-154-11
IC314
MONITOR AUDIO SELECT
IC314 TC4052BPHB
IC315
BUFFER
IC315 NE5532P
IC306
BUFFER
IC306 NE5532P
IC307
FADER
IC307 M51131L
IC311
IC311 NE5532P
A.B L LEBEL
A.B R LEBEL
IC316
PROCESSED AUDIO SELECT
IC316 TC4052BPHB
IC308
SOURCE A SELECT
IC309
BUFFER
IC309 NE5532P
IC310
FADER
IC310 M51131L
IC317
BUFFER
IC317 NE5532P
Q307-309 RELAY DRIVE
IC312
BUFFER
IC312 NE5532P
IC313
BUFFER
IC313 NE5532P
RY307 1-515-622-11
RY306 1-515-622-11
D308 1SS119TD
D307 1SS119TD
Q307 BA1A3Q-TP
Q306 BA1A3Q-TP
RELAY DRIVE
<POWER (A)>
<POWER (B)>
<SEL-B-L>
<FS-B-L>
<FS-B-R>
<SEL-B-R>
<+5V (A)>
<-5V (A)>

19
20
21
22
23
24
25
26
27
W302 I 2.0 AT-29
1 FADER KEY
2 GND
3 SOURCE B SEL 0
4 SOURCE B SEL 1
5 SOURCE A SEL 0
6 SOURCE A SEL 1
7 GND
TO CB-30
CN104
(See Page 143)
W303 I 2.0 AT-30
1 PRO AU SEL 0
2 PRO AU SEL 1
3 MON AU SEL 0
4 MON AU SEL 1
5 POWER A
6 POWER B
7 P4 MUTE
8 P3 MUTE
9 P2 MUTE
10 P1 MUTE
11 GND
TO CB-30
CN103
(See Page 143)
W304 I 2.5 AT-31
1 +6V (B)
2 GND
TO TS-120
CN108
(See Page 247)
IC314
MONITOR
AUDIO SELECT
IC314 TC4052BPHB
IC315
BUFFER
IC315 NE5532P
IC316
PROCESSED
AUDIO SELECT
IC316 TC4052BPHB
IC317
BUFFER
IC317 NE5532P
R369 47
R370 47
R388 47
R389 47
R407 47
C347 10 25V
C348 10 25V
C349 100 16V
C352 100 16V
C353 10 25V
C354 10 25V
C355 100 25V
C358 100 25V
R365 680k
R366 680k
R367 100k
R368 100k
R384 680k
R385 680k
R386 100k
R387 100k
R364 220
R383 220
R408 470
R410 100k
R411 470
R409 100k
R412 100k
R413 100k
C369 10 25V
C370 10 25V
RY301 1-515-622-11
D302 1SS119TD
Q301
BA1A3Q-TP
RELAY DRIVE
<POWER (A)>
RY302 1-515-622-11
D303 1SS119TD
Q302
BA1A3Q-TP
RELAY DRIVE
<P4-MUTE>
RY303 1-515-622-11
D304 1SS119TD
Q303
BA1A3Q-TP
RELAY DRIVE
<P3-MUTE>
RY304 1-515-622-11
D305 1SS119TD
Q304
BA1A3Q-TP
RELAY DRIVE
<P2-MUTE>
RY305 1-515-622-11
D306 1SS119TD
Q305
BA1A3Q-TP
RELAY DRIVE
<P1-MUTE>
R371 1k
C359 10 25V
<ML>
R372 100k
R373 100k
R374 1k
C360 10 25V
<MR>
R390 1k
C361 10 25V
<P4-L>
R391 100k
R393 100k
R392 1k
C362 10 25V
<P4-R>
R394 1k
C363 100 25V
<P3-L>
R395 100k
R396 100k
R397 1k
C364 10 25V
<P3-R>
R398 1k
C365 10 25V
<P2-L>
R399 100k
R400 100k
R401 1k
C366 10 25V
<P2-R>
R402 1k
C367 10 25V
<P1-L>
R403 100k
R405 1k
C368 10 25V
R404 100k
<P1-R>
VCC
VEE
11.6
-11.7
-11.6
0.4
1.2
0.2
1.6
1.5
5.9
-5.1
5.1

## **AP-20 (AUDIO) PRINTED WIRING BOARD**

—Ref. No. AP-20 BOARD : 1,000 Series—

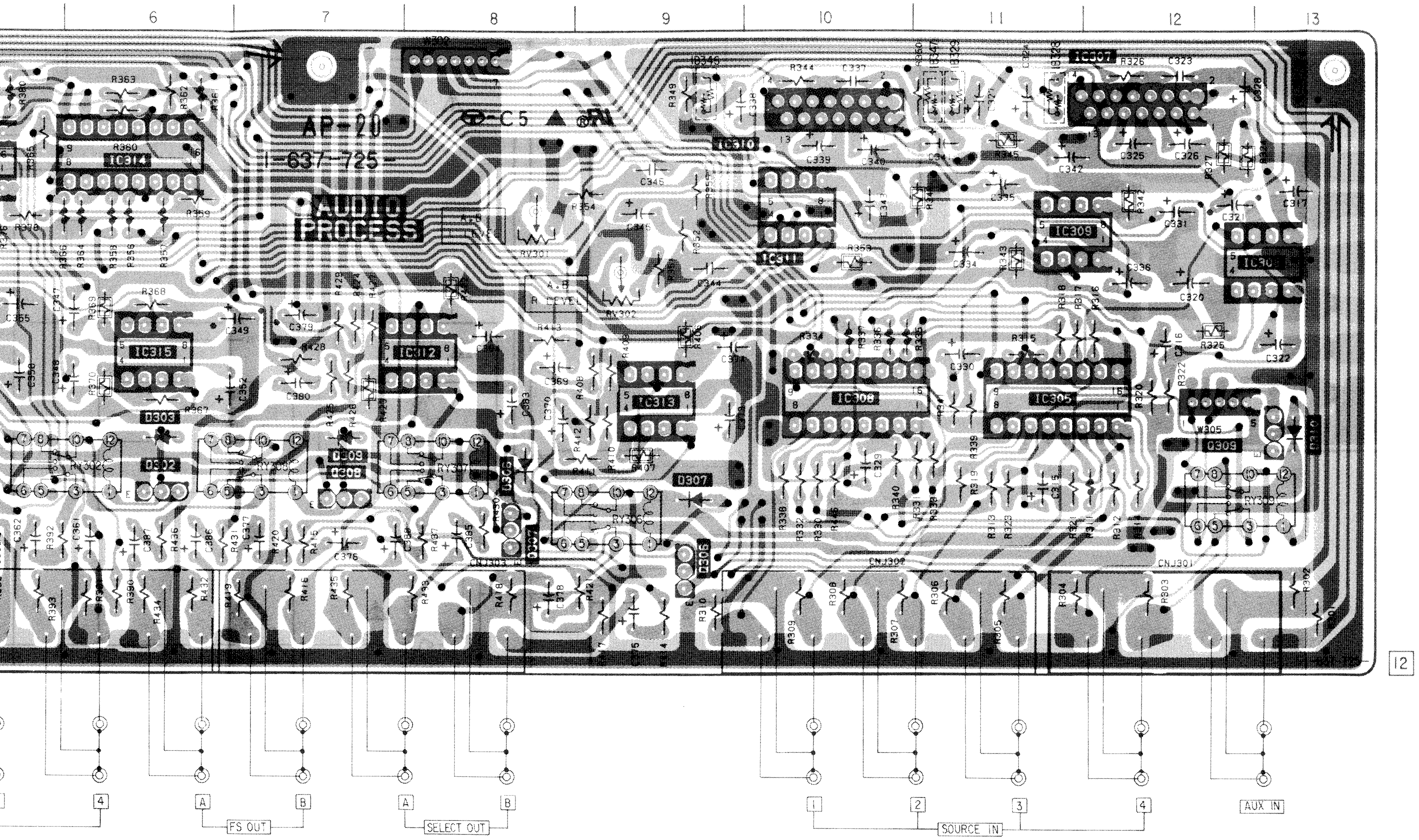

1
2
3
4
5
6
7
8
9
10
11
12
13
A
B
C
D
AP-20
637-725
AUDIO PROCESS
FADER
FADER REF
IC301
IC302
IC303
IC305
IC307
IC308
IC309
IC310
IC311
IC312
IC313
IC314
IC315
IC316
IC317
IC318
CN301
CNJ301
CNJ302
CNJ303
CNJ304
CNJ305
RV302
RV303
RV304
RV305
L
R
MONITOR OUT
1
2
3
4
PROCESSED OUT
A
B
FS OUT
SELECT OUT
SOURCE IN
AUX IN
12

AP-20 BOARD

For printed wiring boards :

- o— : indicates a lead wire mounted on the componet side.
- ●— : indicates a lead wire mounted on the printed side.
- ● : Through hole.
- ▓ : Pattern from the side which enables seeing.
- ░ : Pattern of the rear side.

When indicating parts by reference number, please include the board name.



6
7
8
9
10
11
12
13
AP-20
1-637-725
AUDIO PROCESS
C5
IC301
IC302
IC303
IC304
IC305
IC306
IC307
IC308
IC309
IC310
IC311
IC312
IC313
IC314
IC315
D302
D303
D307
D308
D309
Q306
Q307
Q309
CNJ301
CNJ302
12
4
A
B
FS OUT
A
B
SELECT OUT
1
2
3
4
SOURCE IN
AUX IN

## AP-20 BOARD

| | |
|---|---|
| D301 | A-2 |
| D302 | C-1 |
| D303 | C-6 |
| D304 | C-5 |
| D305 | C-4 |
| D306 | C-2 |
| D307 | C-9 |
| D308 | C-8 |
| D309 | C-7 |
| D310 | C-13 |
| IC301 | B-1 |
| IC302 | C-1 |
| IC303 | C-2 |
| IC304 | A-2 |
| IC305 | C-11 |
| IC306 | B-13 |
| IC307 | A-12 |
| IC308 | C-10 |
| IC309 | B-11 |
| IC310 | A-10 |
| IC311 | B-10 |
| IC312 | B-8 |
| IC313 | C-9 |
| IC314 | A-6 |
| IC315 | B-6 |
| IC316 | A-5 |
| IC317 | B-5 |
| IC318 | B-3 |
| Q301 | C-2 |
| Q302 | C-6 |
| Q303 | C-5 |
| Q304 | C-4 |
| Q305 | C-2 |
| Q306 | D-9 |
| Q307 | C-8 |
| Q308 | C-7 |
| Q309 | C-12 |

For printed wiring boards :

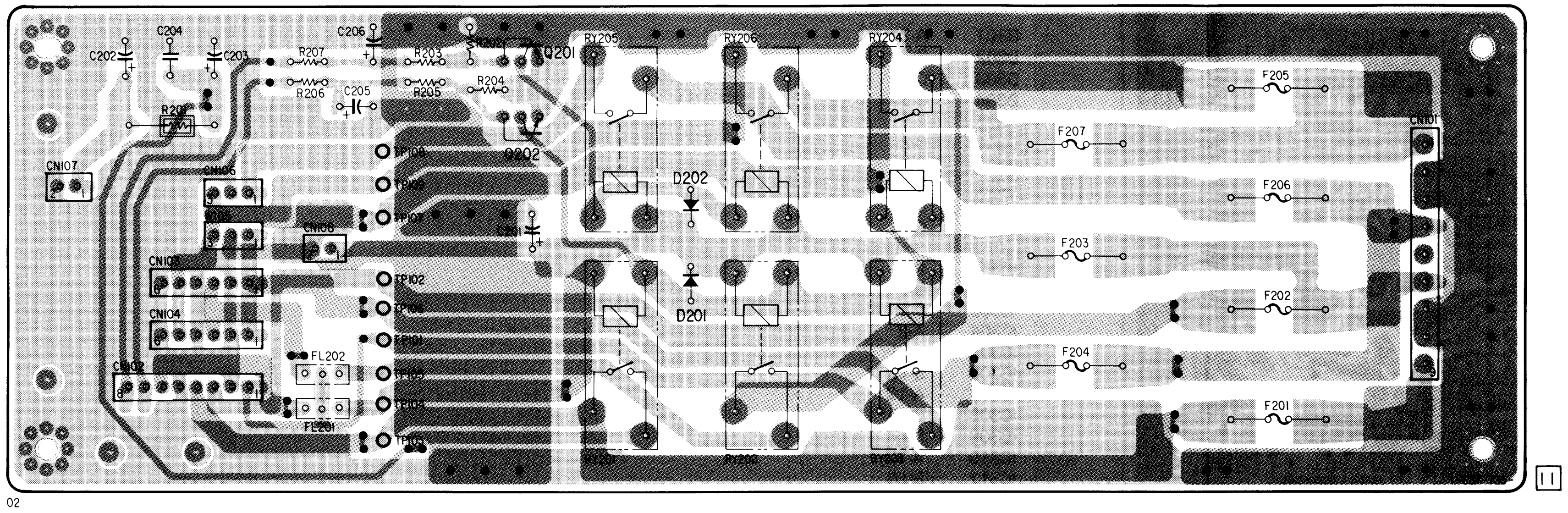
- ○— : indicates a lead wire mounted on the componet side.
- ●— : indicates a lead wire mounted on the printed side.
- ● : Through hole.
- ▩ : Pattern from the side which enables seeing.
- ░ : Pattern of the rear side.

When indicating parts by reference number, please include the board name.

## TS-120 (POWER TERMINAL SELECT) PRINTED WIRING BOARD

—Ref. No. TS-120 BOARD : 3,000 Series—

TS-120 BOARD


C204
C202
C203
C206
R207
R206
C205
R203
R205
R202
R204
Q201
Q202
R201
CN107
CN106
CN105
CN103
CN104
CN102
CN108
FL202
FL201
TP106
TP105
TP107
TP102
TP108
TP101
TP104
TP103
C201
RY205
RY206
RY204
RY201
RY202
RY203
D202
D201
F207
F205
F206
F203
F202
F204
F201
CN101
02
11

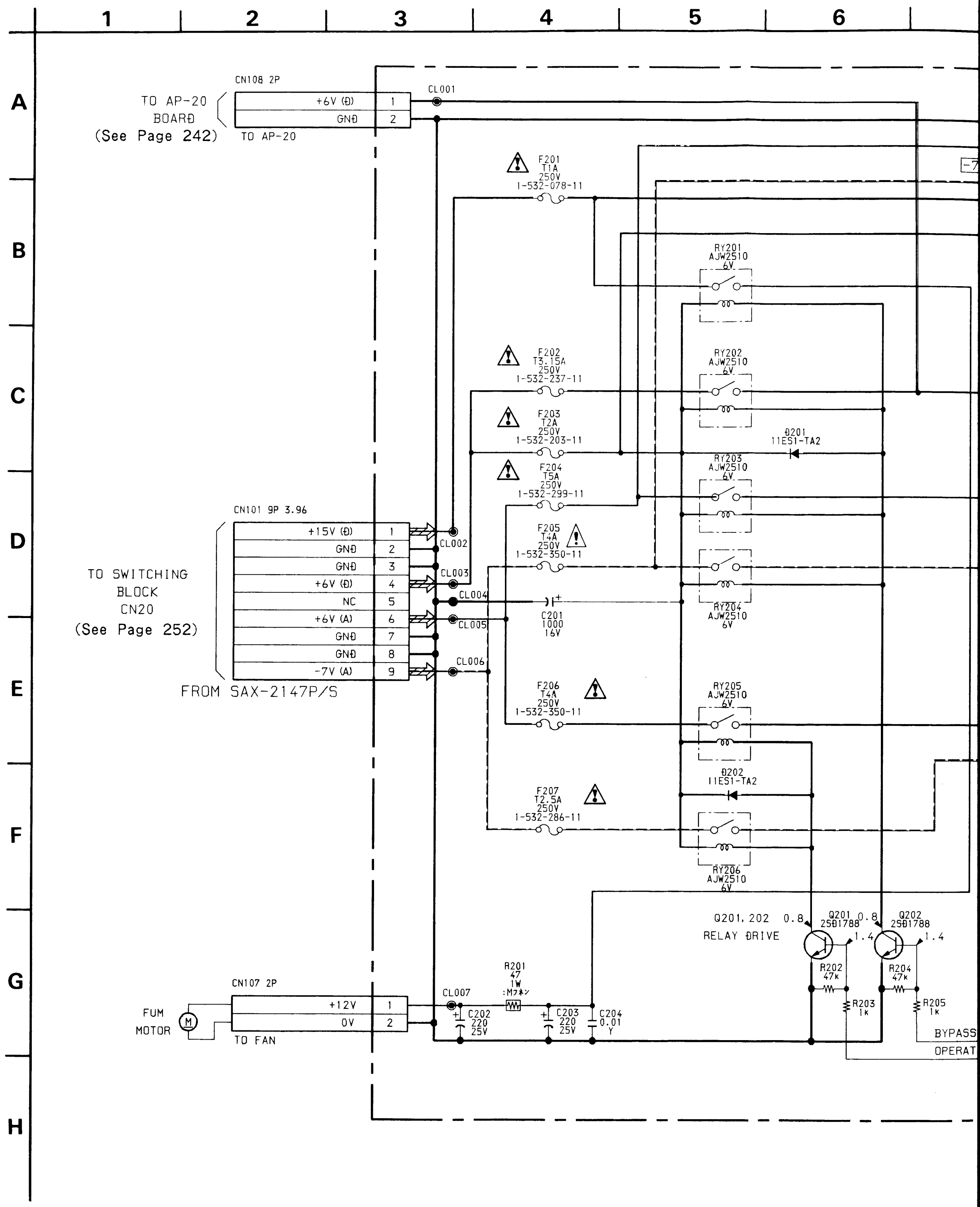
For printed wiring boards :

- o— : indicates a lead wire mounted on the componet side.
- •— : indicates a lead wire mounted on the printed side.
- ● : Through hole.
- ▨ : Pattern from the side which enables seeing.
- ▩ : Pattern of the rear side.

When indicating parts by reference number, please include the board name.

## TS-120 (POWER TERMINAL SELECT) SCHEMATIC DIAGRAM

—Ref. No. TS-120 BOARD : 3,000 Series—


1
2
3
4
5
6
A
B
C
D
E
F
G
H
CN108 2P
TO AP-20 BOARD (See Page 242)
+6V (D)
GND
TO AP-20
CL001
F201 T1A 250V 1-532-078-11
RY201 AJW2510 6V
F202 T3.15A 250V 1-532-237-11
RY202 AJW2510 6V
F203 T2A 250V 1-532-203-11
D201 11ES1-TA2
F204 T5A 250V 1-532-299-11
RY203 AJW2510 6V
CN101 9P 3.96
TO SWITCHING BLOCK CN20 (See Page 252)
+15V (D)
GND
GND
+6V (D)
NC
+6V (A)
GND
GND
-7V (A)
FROM SAX-2147P/S
CL002
CL003
CL004
CL005
CL006
F205 T4A 250V 1-532-350-11
C201 1000 16V
RY204 AJW2510 6V
F206 T4A 250V 1-532-350-11
RY205 AJW2510 6V
D202 11ES1-TA2
F207 T2.5A 250V 1-532-286-11
RY206 AJW2510 6V
Q201, 202 RELAY DRIVE
Q201 2SB1788
Q202 2SB1788
0.8
1.4
R202 47k
R203 1k
R204 47k
R205 1k
CN107 2P
FUM MOTOR
+12V
0V
TO FAN
CL007
C202 220 25V
R201 47 1W
C203 220 25V
C204 0.01 Y
BYPASS
OPERAT

- Signal path

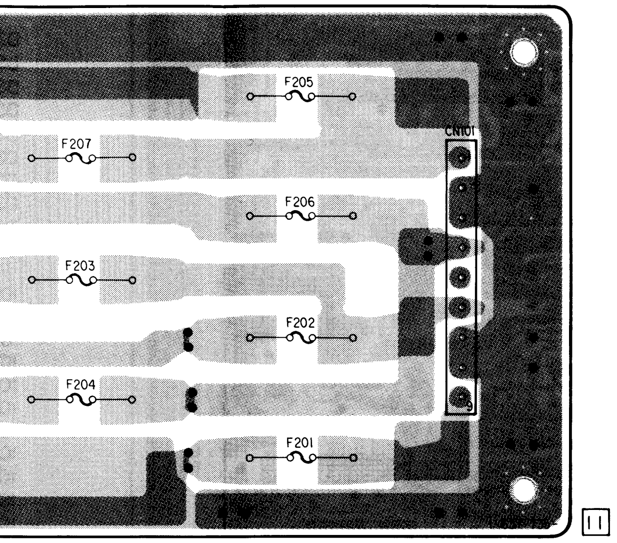
CONTROL Signal

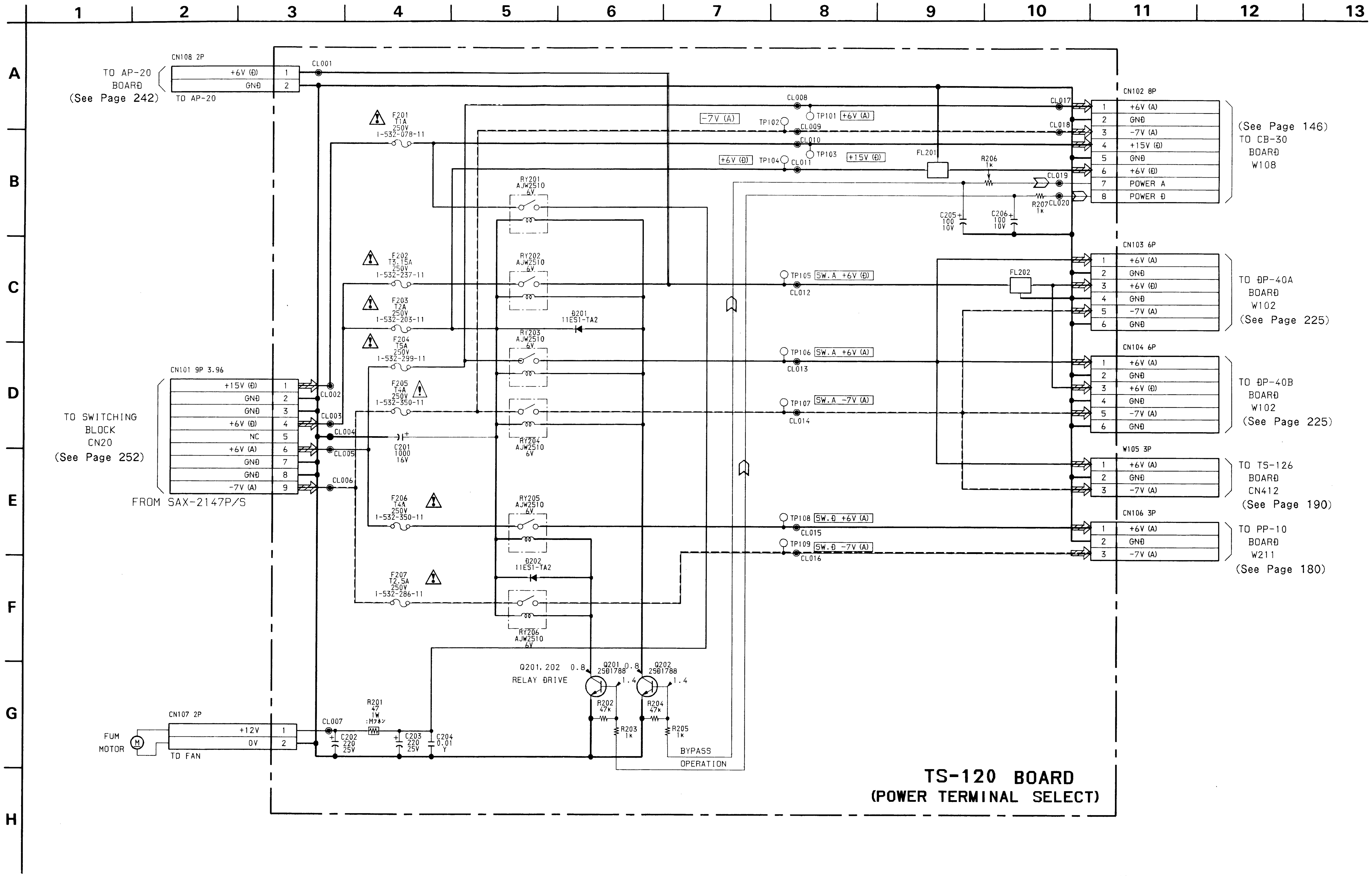
CONTROL ⊳

POWER TERMINAL POWER TER

## TS-120 (POWER TERMINAL SELECT) SCHEMATIC DIAGRAM

—Ref. No. TS-120 BOARD : 3,000 Series—


F205
F207
F206
F203
F202
F204
F201
CN101
11


1
2
3
4
5
6
7
8
9
10
11
12
13
A
B
C
D
E
F
G
H
CN108 2P
TO AP-20
BOARD
(See Page 242)
+6V (D)
GND
TO AP-20
CL001
F201
T1A
250V
1-532-078-11
F202
T3.15A
250V
1-532-237-11
F203
T2A
250V
1-532-203-11
F204
T5A
250V
1-532-299-11
F205
T4A
250V
1-532-350-11
F206
T4A
250V
1-532-350-11
F207
T2.5A
250V
1-532-286-11
RY201
AJW2510
6V
RY202
AJW2510
6V
RY203
AJW2510
6V
RY204
AJW2510
6V
RY205
AJW2510
6V
RY206
AJW2510
6V
D201
11ES1-TA2
D202
11ES1-TA2
C201
1000
16V
CN101 9P 3.96
+15V (D)
GND
GND
+6V (D)
NC
+6V (A)
GND
GND
-7V (A)
TO SWITCHING
BLOCK
CN20
(See Page 252)
FROM SAX-2147P/S
CL002
CL003
CL004
CL005
CL006
CN107 2P
FUN
MOTOR
M
+12V
0V
TO FAN
CL007
C202
220
25V
R201
47
1W
:M7ヒン
C203
220
25V
C204
0.01
Y
Q201, 202
RELAY DRIVE
Q201
2SD1788
Q202
2SD1788
0.8
1.4
R202
47k
R203
1k
R204
47k
R205
1k
BYPASS
OPERATION
CL008
-7V (A)
TP102
TP101
+6V (A)
CL009
CL010
TP103
+15V (D)
+6V (D)
TP104
CL011
FL201
R206
1k
R207
1k
CL017
CL018
CL019
CL020
C205
100
10V
C206
100
10V
CN102 8P
+6V (A)
GND
-7V (A)
+15V (D)
GND
+6V (D)
POWER A
POWER D
(See Page 146)
TO CB-30
BOARD
W108
TP105
SW.A +6V (D)
CL012
FL202
CN103 6P
+6V (A)
GND
+6V (D)
GND
-7V (A)
GND
TO DP-40A
BOARD
W102
(See Page 225)
TP106
SW.A +6V (A)
CL013
TP107
SW.A -7V (A)
CL014
CN104 6P
+6V (A)
GND
+6V (D)
GND
-7V (A)
GND
TO DP-40B
BOARD
W102
(See Page 225)
W105 3P
+6V (A)
GND
-7V (A)
TO TS-126
BOARD
CN412
(See Page 190)
TP108
SW.D +6V (A)
CL015
TP109
SW.D -7V (A)
CL016
CN106 3P
+6V (A)
GND
-7V (A)
TO PP-10
BOARD
W211
(See Page 180)
TS-120 BOARD
(POWER TERMINAL SELECT)

• Signal path

CONTROL Signal

CONTROL ▷

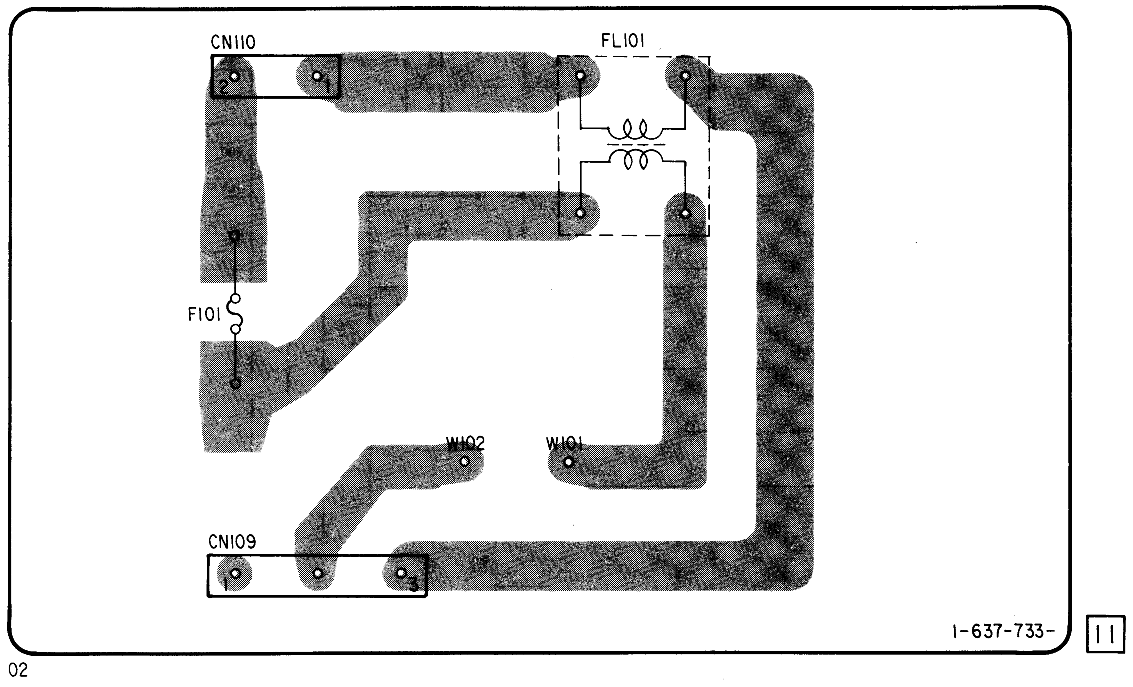
When indicating parts by reference number, please include the board name.

**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

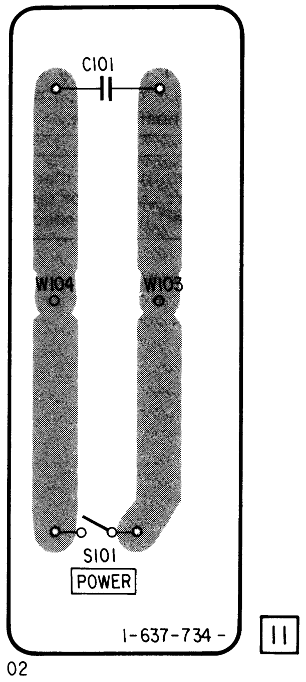
## AC-82 (POWERTRANS), AC-83 (POWER SW) PRINTED WIRING BOARDS

—Ref. No. AC-82, AC-83 BOARDS : 1,000 Series—

### AC-82 BOARD

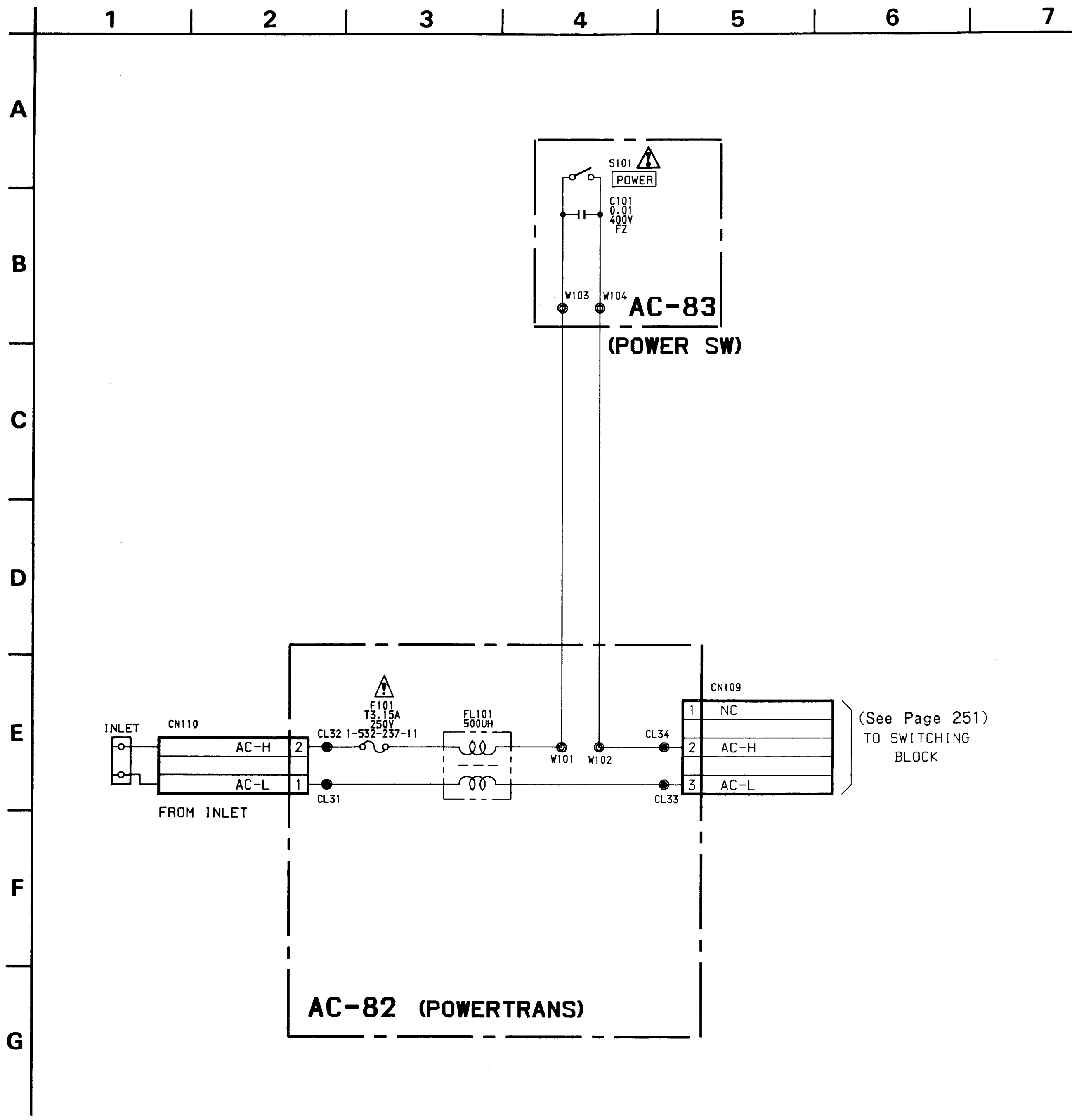

CN110
2
1
FL101
F101
W102
W101
CN109
1
3
1-637-733-
11
02

### AC-83 BOARD


C101
W104
W103
S101
POWER
1-637-734-
11
02

## AC-82 (POWERTRANS), AC-83 (POWER SW) SCHEMATIC DIAGRAMS

—Ref. No. AC-82, AC-83 BOARDS : 1,000 Series—

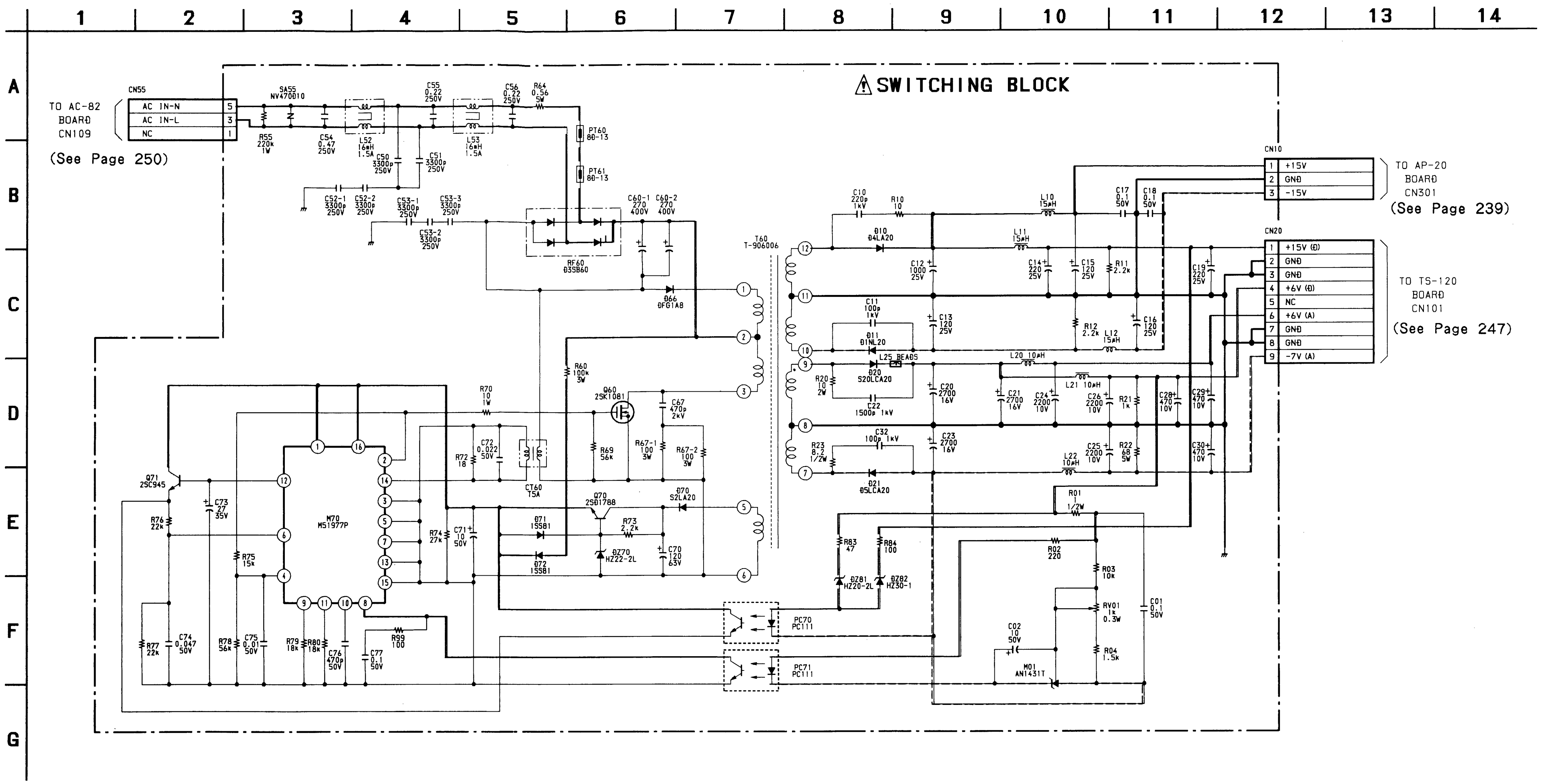

1
2
3
4
5
6
7
A
B
C
D
E
F
G
S101
POWER
C101
0.01
400V
FZ
W103
W104
AC-83
(POWER SW)
INLET
CN110
AC-H
AC-L
2
1
FROM INLET
F101
T3.15A
250V
CL32 1-532-237-11
CL31
FL101
500UH
W101
W102
CL34
CL33
CN109
1 NC
2 AC-H
3 AC-L
(See Page 251)
TO SWITCHING
BLOCK
AC-82 (POWERTRANS)

When indicating parts by reference number, please include the board name.

**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

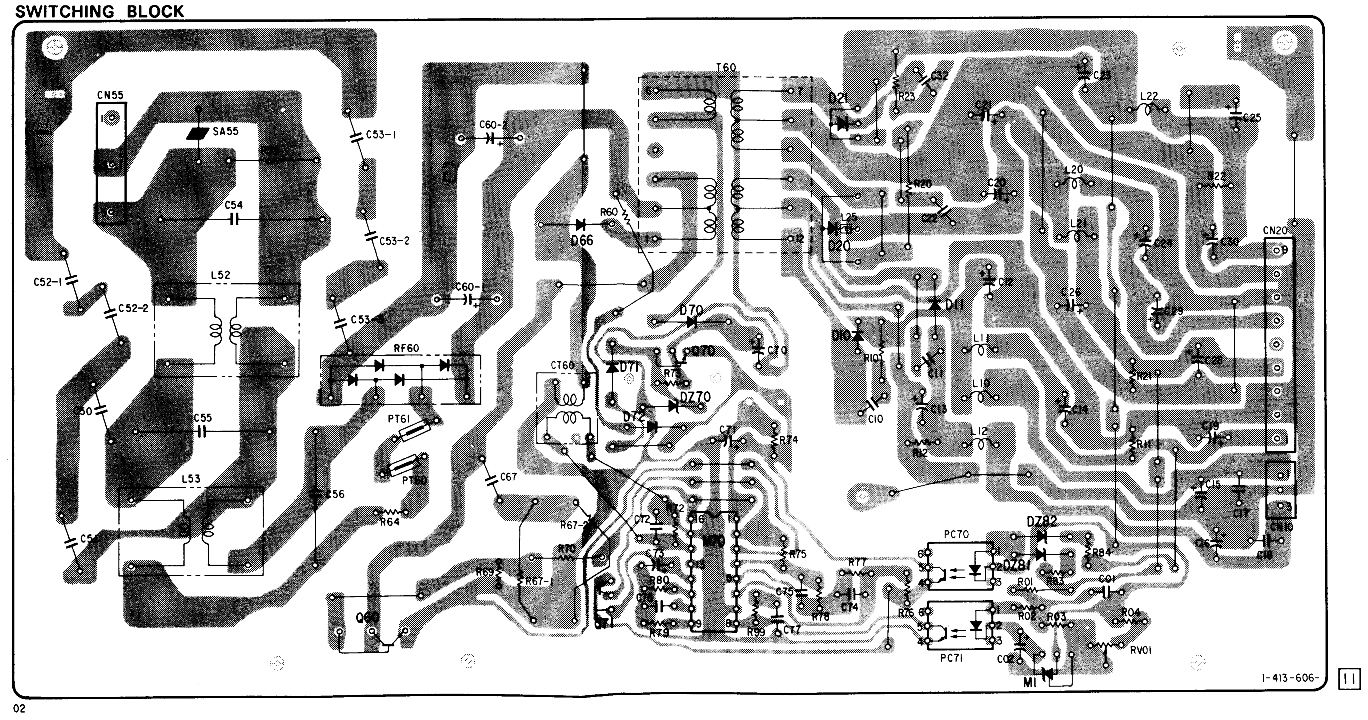
## SWITCHING BLOCK (POWER BLOCK) SCHEMATIC DIAGRAM

—Ref. No. SWITCHING BLOCK BOARD : 5,000 Series—


1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
⚠SWITCHING BLOCK
TO AC-82 BOARD CN109
CN55
AC IN-N 5
AC IN-L 3
NC 1
(See Page 250)
SA55 NV470010
R55 220k 1W
C54 0.47 250V
L52 16mH 1.5A
C50 3300p 250V
C51 3300p 250V
C55 0.22 250V
L53 16mH 1.5A
C56 0.22 250V
R64 0.56 5W
PT60 80-13
PT61 80-13
C52-1 3300p 250V
C52-2 3300p 250V
C53-1 3300p 250V
C53-2 3300p 250V
C53-3 3300p 250V
RF60 D3SB60
C60-1 270 400V
C60-2 270 400V
D66 DFG1A8
T60 T-906006
R60 100k 3W
Q60 2SK1081
C67 470p 2kV
R70 10 1W
R72 18
C72 0.022 50V
CT60 T5A
R69 56k
R67-1 100 3W
R67-2 100 3W
Q70 2SD1788
D70 S2LA20
D71 1SS81
D72 1SS81
R73 2.2k
DZ70 HZ22-2L
C70 120 63V
R74 27k
C71 10 50V
M70 M51977P
Q71 2SC945
C73 27 35V
R76 22k
R75 15k
R77 22k
C74 0.047 50V
R78 56k
C75 0.01 50V
R79 18k
R80 18k
C76 470p 50V
C77 0.1 50V
R99 100
PC70 PC111
PC71 PC111
C10 220p 1kV
R10 10
D10 D4LA20
C12 1000 25V
L10 15μH
L11 15μH
C14 220 25V
C15 120 25V
R11 2.2k
C17 0.1 50V
C18 0.1 50V
C19 220 25V
C11 100p 1kV
D11 D1NL20
C13 120 25V
R12 2.2k
L12 15μH
C16 120 25V
L25 BEADS
D20 S20LCA20
R20 10 2W
C22 1500p 1kV
C20 2700 16V
L20 10μH
L21 10μH
C21 2700 16V
C24 2200 10V
C26 2200 10V
R21 1k
C28 470 10V
C29 470 10V
C32 100p 1kV
R23 8.2 1/2W
C23 2700 16V
D21 D5LCA20
L22 10μH
C25 2200 10V
R22 68 5W
C30 470 10V
R01 1 1/2W
R02 220
R03 10k
RV01 1k 0.3W
R04 1.5k
C01 0.1 50V
C02 10 50V
M01 AN1431T
R83 47
R84 100
DZ81 HZ20-2L
DZ82 HZ30-1
CN10
1 +15V
2 GND
3 -15V
TO AP-20 BOARD CN301
(See Page 239)
CN20
1 +15V (D)
2 GND
3 GND
4 +6V (D)
5 NC
6 +6V (A)
7 GND
8 GND
9 -7V (A)
TO TS-120 BOARD CN101
(See Page 247)

## SWITCHING BLOCK (POWER BLOCK) PRINTED WIRING BOARD

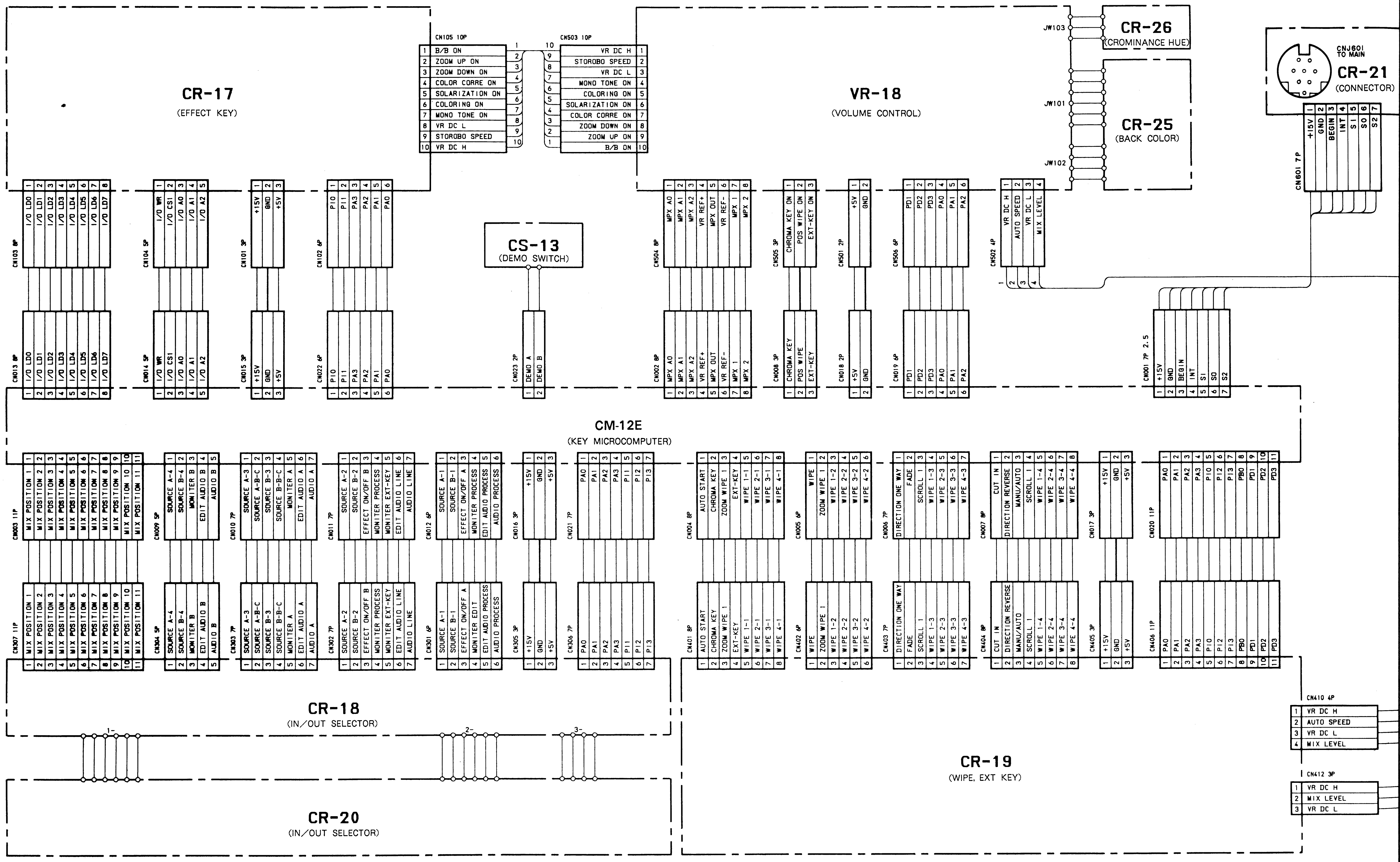
—Ref. No. SWITCHING BLOCK BOARD : 5,000 Series—

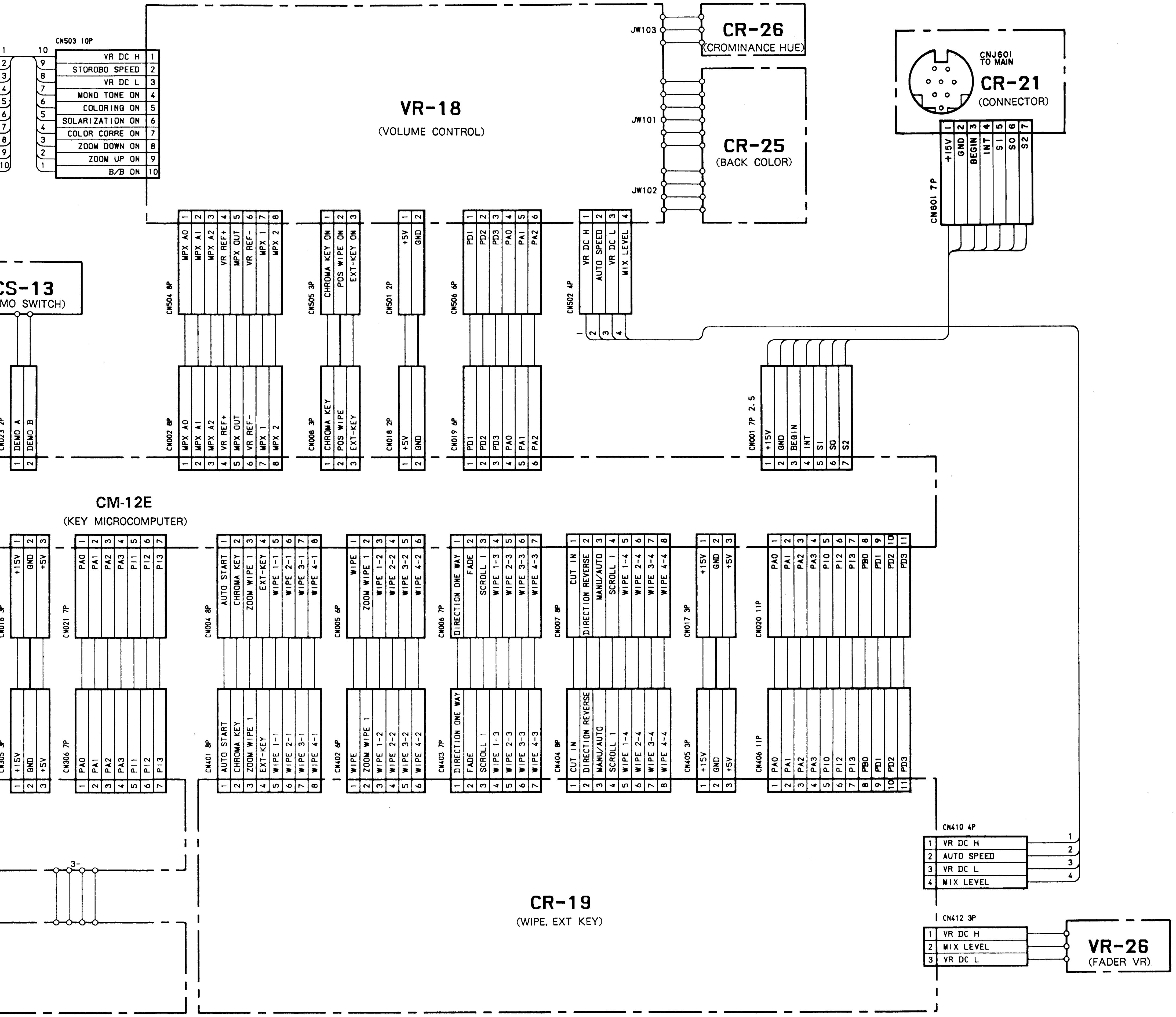

SWITCHING BLOCK
CN55
SA55
C54
C53-1
C53-2
C52-1
C52-2
L52
C50
C55
L53
C51
C60-2
C60-1
C53-3
RF60
PT61
PT60
C56
R64
D66
R60
Q66
C67
R67-1
R69
Q60
T60
D70
Q70
C70
D71
R73
DZ70
D72
CT60
C71
R74
C72
R70
R80
M70
R75
C75
C74
R77
R78
R76
R99
C77
R79
PC70
PC71
DZ82
DZ81
R83
R84
R01
C01
R02
R03
R04
RV01
C02
M1
D21
C32
R23
C23
C22
C21
R20
C20
L26
D20
D11
D10
R10
C11
C10
L11
C13
L10
C14
L12
R12
C12
C26
L20
L21
R22
L22
C25
C28
C30
C29
C24
R21
C19
C18
R11
C15
C17
C16
CN20
CN10
1-413-606-
11
02

When indicating parts by reference number, please include the board name.

**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

## 5-3. FRAME SCHEMATIC DIAGRAM –CONTROL UNIT–


CR-17
(EFFECT KEY)
CN105 10P
B/B ON
ZOOM UP ON
ZOOM DOWN ON
COLOR CORRE ON
SOLARIZATION ON
COLORING ON
MONO TONE ON
VR DC L
STOROBO SPEED
VR DC H
CN503 10P
VR-18
(VOLUME CONTROL)
CR-26
(CROMINANCE HUE)
CR-25
(BACK COLOR)
JW103
JW101
JW102
CNJ601 TO MAIN
CR-21
(CONNECTOR)
CN601 7P
+15V
GND
BEGIN
INT
S1
S0
S2
CN103 8P
I/O LD0
I/O LD1
I/O LD2
I/O LD3
I/O LD4
I/O LD5
I/O LD6
I/O LD7
CN104 5P
I/O WR
I/O CS1
I/O A0
I/O A1
I/O A2
CN101 3P
+15V
GND
+5V
CN102 6P
PI0
PI1
PA3
PA2
PA1
PA0
CS-13
(DEMO SWITCH)
CN504 8P
MPX A0
MPX A1
MPX A2
VR REF+
MPX OUT
VR REF-
MPX 1
MPX 2
CN505 3P
CHROMA KEY ON
POS WIPE ON
EXT-KEY ON
CN501 2P
+5V
GND
CN506 6P
PD1
PD2
PD3
PA0
PA1
PA2
CN502 4P
VR DC H
AUTO SPEED
VR DC L
MIX LEVEL
CN013 8P
CN014 5P
CN015 3P
CN022 6P
CN023 2P
DEMO A
DEMO B
CN002 8P
CN008 3P
CHROMA KEY
POS WIPE
EXT-KEY
CN018 2P
CN019 6P
CN001 7P 2.5
CM-12E
(KEY MICROCOMPUTER)
CN003 11P
MIX POSITION 1
MIX POSITION 2
MIX POSITION 3
MIX POSITION 4
MIX POSITION 5
MIX POSITION 6
MIX POSITION 7
MIX POSITION 8
MIX POSITION 9
MIX POSITION 10
MIX POSITION 11
CN009 5P
SOURCE A-4
SOURCE B-4
MONITER B
EDIT AUDIO B
AUDIO B
CN010 7P
SOURCE A-3
SOURCE A-B-C
SOURCE B-3
SOURCE B-B-C
MONITER A
EDIT AUDIO A
AUDIO A
CN011 7P
SOURCE A-2
SOURCE B-2
EFFECT ON/OFF B
MONITER PROCESS
MONITER EXT-KEY
EDIT AUDIO LINE
AUDIO LINE
CN012 6P
SOURCE A-1
SOURCE B-1
EFFECT ON/OFF A
MONITER EDIT
EDIT AUDIO PROCESS
AUDIO PROCESS
CN016 3P
+15V
GND
+5V
CN021 7P
PA0
PA1
PA2
PA3
PI1
PI2
PI3
CN004 8P
AUTO START
CHROMA KEY
ZOOM WIPE 1
EXT-KEY
WIPE 1-1
WIPE 2-1
WIPE 3-1
WIPE 4-1
CN005 6P
WIPE
ZOOM WIPE 1
WIPE 1-2
WIPE 2-2
WIPE 3-2
WIPE 4-2
CN006 7P
DIRECTION ONE WAY
FADE
SCROLL 1
WIPE 1-3
WIPE 2-3
WIPE 3-3
WIPE 4-3
CN007 8P
CUT IN
DIRECTION REVERSE
MANU/AUTO
SCROLL 1
WIPE 1-4
WIPE 2-4
WIPE 3-4
WIPE 4-4
CN017 3P
+15V
GND
+5V
CN020 11P
PA0
PA1
PA2
PA3
PI0
PI2
PI3
PB0
PD1
PD2
PD3
CN307 11P
CN304 5P
CN303 7P
CN302 7P
CN301 6P
CN305 3P
CN306 7P
CN401 8P
CN402 6P
CN403 7P
CN404 8P
CN405 3P
CN406 11P
CR-18
(IN/OUT SELECTOR)
1-
2-
3-
CR-20
(IN/OUT SELECTOR)
CR-19
(WIPE, EXT KEY)
CN410 4P
VR DC H
AUTO SPEED
VR DC L
MIX LEVEL
CN412 3P
VR DC H
MIX LEVEL
VR DC L


CN503 10P
VR DC H
STOROBO SPEED
VR DC L
MONO TONE ON
COLORING ON
SOLARIZATION ON
COLOR CORRE ON
ZOOM DOWN ON
ZOOM UP ON
B/B ON
VR-18
(VOLUME CONTROL)
JW103
JW101
JW102
CR-26
(CROMINANCE HUE)
CR-25
(BACK COLOR)
CNJ601
TO MAIN
CR-21
(CONNECTOR)
CN601 7P
+15V
GND
BEGIN
INT
S1
SO
S2
CS-13
MO SWITCH)
CN504 8P
MPX A0
MPX A1
MPX A2
VR REF+
MPX OUT
VR REF-
MPX 1
MPX 2
CN505 3P
CHROMA KEY ON
POS WIPE ON
EXT-KEY ON
CN501 2P
+5V
GND
CN506 6P
PD1
PD2
PD3
PA0
PA1
PA2
CN502 4P
VR DC H
AUTO SPEED
VR DC L
MIX LEVEL
CN023 2P
DEMO A
DEMO B
CN002 8P
CN008 3P
CHROMA KEY
POS WIPE
EXT-KEY
CN018 2P
CN019 6P
CN001 7P 2.5
CM-12E
(KEY MICROCOMPUTER)
CN016 3P
+15V
GND
+5V
CN021 7P
PA0
PA1
PA2
PA3
P11
P12
P13
CN004 8P
AUTO START
CHROMA KEY
ZOOM WIPE 1
EXT-KEY
WIPE 1-1
WIPE 2-1
WIPE 3-1
WIPE 4-1
CN005 6P
WIPE
ZOOM WIPE 1
WIPE 1-2
WIPE 2-2
WIPE 3-2
WIPE 4-2
CN006 7P
DIRECTION ONE WAY
FADE
SCROLL 1
WIPE 1-3
WIPE 2-3
WIPE 3-3
WIPE 4-3
CN007 8P
CUT IN
DIRECTION REVERSE
MANU/AUTO
SCROLL 1
WIPE 1-4
WIPE 2-4
WIPE 3-4
WIPE 4-4
CN017 3P
CN020 11P
PA0
PA1
PA2
PA3
P10
P12
P13
PB0
PD1
PD2
PD3
CN305 3P
CN306 7P
CN401 8P
CN402 6P
CN403 7P
CN404 8P
CN405 3P
CN406 11P
CN410 4P
VR DC H
AUTO SPEED
VR DC L
MIX LEVEL
CN412 3P
VR DC H
MIX LEVEL
VR DC L
VR-26
(FADER VR)
CR-19
(WIPE, EXT KEY)
3-

FRAME FRAME

## 5-4. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS –CONTROL UNIT–

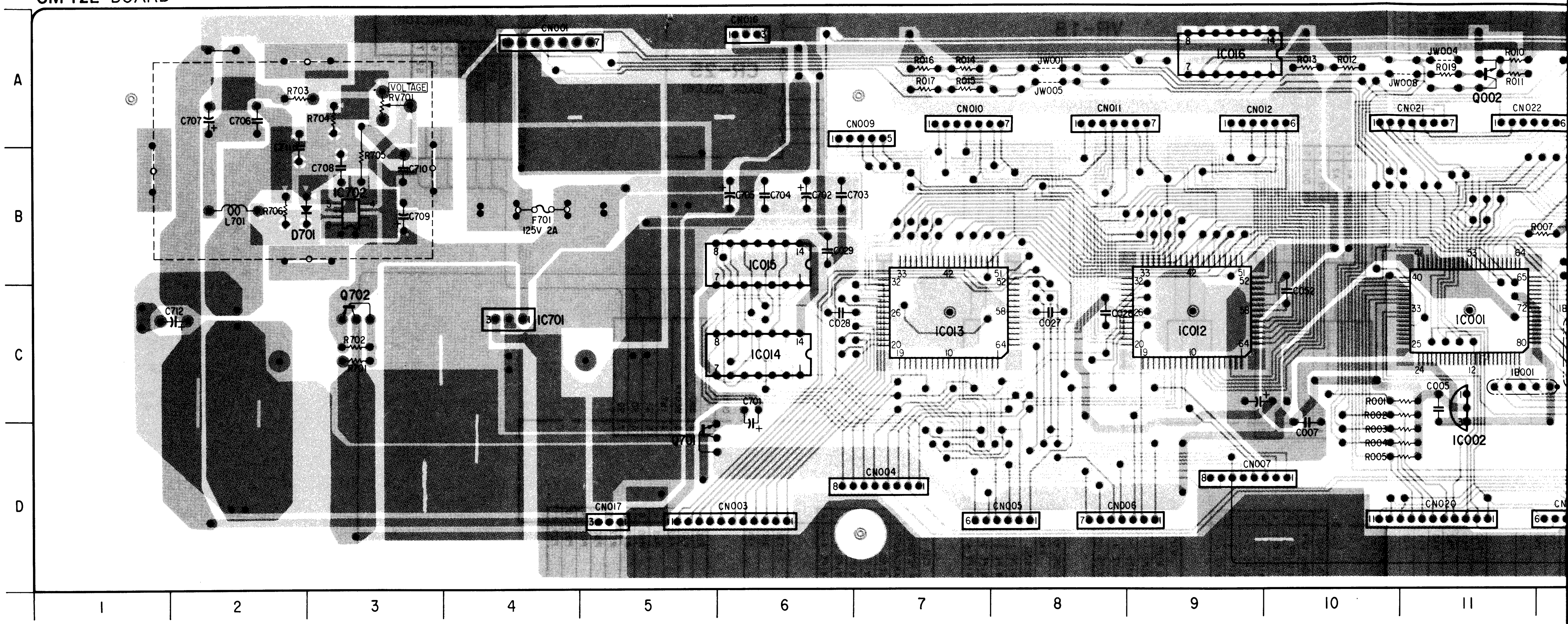
### CM-12E (KEY MICROCOMPUTER) PRINTED WIRING BOARD

–Ref. No. CM-12E BOARD : 7,000 Series–

CM-12E BOARD

| | |
|---|---|
| D701 | B-2 |
| IC001 | C-11 |
| IC002 | C-11 |
| IC003 | D-15 |
| IC004 | C-15 |
| IC005 | B-15 |
| IC006 | D-14 |
| IC007 | C-14 |
| IC008 | B-14 |
| IC009 | D-13 |
| IC010 | C-13 |
| IC011 | B-13 |
| IC012 | C-9 |
| IC013 | C-7 |
| IC014 | C-6 |
| IC015 | B-6 |
| IC016 | A-9 |
| IC701 | C-4 |
| IC702 | B-3 |
| Q001 | A-13 |
| Q002 | A-11 |
| Q701 | D-5 |
| Q702 | C-3 |

CM-12E BOARD


A
B
C
D
1
2
3
4
5
6
7
8
9
10
11
CN001
CN016
IC016
R016
R014
R017
R015
JW001
JW005
R013
R012
JW004
R019
R010
R011
JW008
Q002
CN009
CN010
CN011
CN012
CN021
CN022
R703
VOLTAGE
RV701
R704
C707
C706
C711
C708
R705
C710
IC702
L701
R706
D701
C709
F701
125V 2A
C705
C704
C702
C703
IC015
C029
R007
C712
Q702
R702
R701
IC701
IC014
C028
IC013
C027
C026
IC012
IC001
IB001
C701
Q701
C005
C007
R001
R002
R003
R004
R005
IC002
CN007
CN004
CN017
CN003
CN005
CN006
CN020

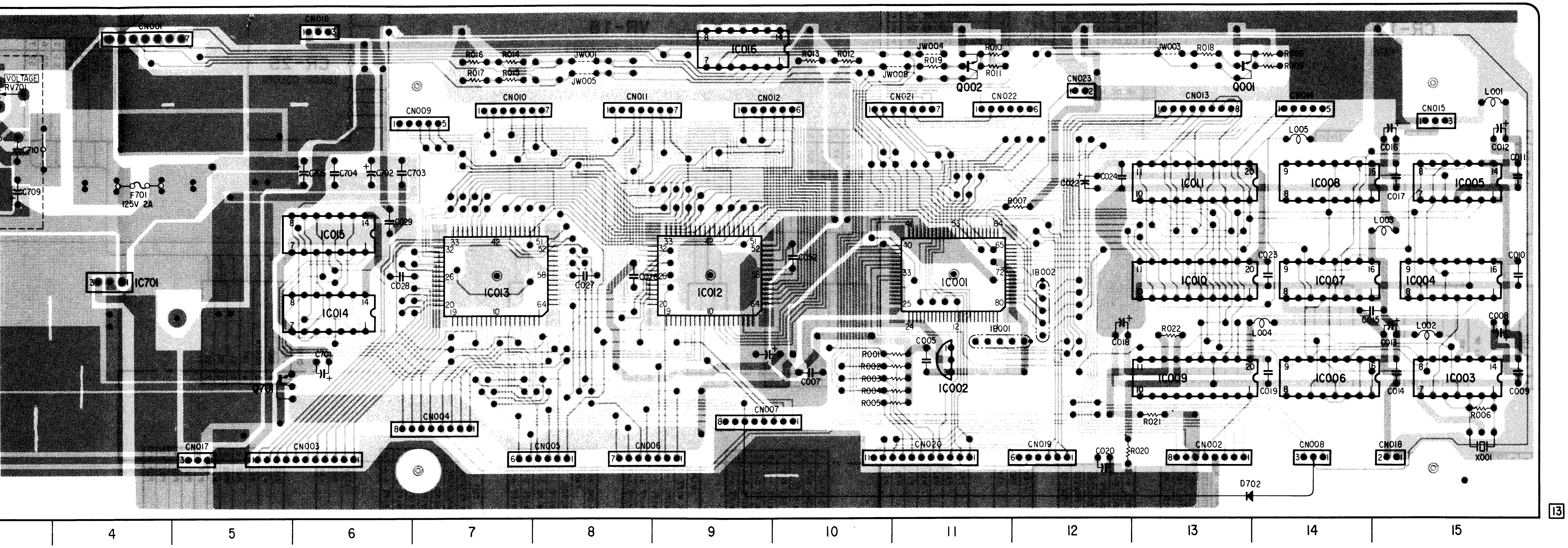
For printed wiring boards :

- ○— : indicates a lead wire mounted on the componet side.
- ●— : indicates a lead wire mounted on the printed side.
- ● : Through hole.
- ▨ : Pattern from the side which enables seeing.
- ░ : Pattern of the rear side.

When indicating parts by reference number, please include the board name.

## -CONTROL UNIT-

### WIRING BOARD


CN001
CN016
IC016
CN009
CN010
CN011
CN012
CN021
CN022
CN023
CN013
CN014
CN015
CN002
CN003
CN004
CN005
CN006
CN007
CN008
CN017
CN018
CN019
CN020
IC001
IC002
IC003
IC004
IC005
IC006
IC007
IC008
IC009
IC010
IC011
IC012
IC013
IC014
IC015
IC701
Q001
Q002
Q701
JW001
JW003
JW004
JW005
JW008
IB001
IB002
R001
R002
R003
R004
R005
R006
R007
R010
R011
R012
R013
R014
R015
R016
R017
R018
R019
R020
R021
R022
C005
C007
C008
C009
C010
C011
C012
C013
C014
C015
C016
C017
C018
C019
C020
C022
C023
C024
C026
C027
C028
C029
C702
C703
C704
C705
C709
C710
C701
L001
L002
L003
L004
L005
X001
D702
F701
125V 2A
VOLTAGE
RV701
13
4
5
6
7
8
9
10
11
12
13
14
15

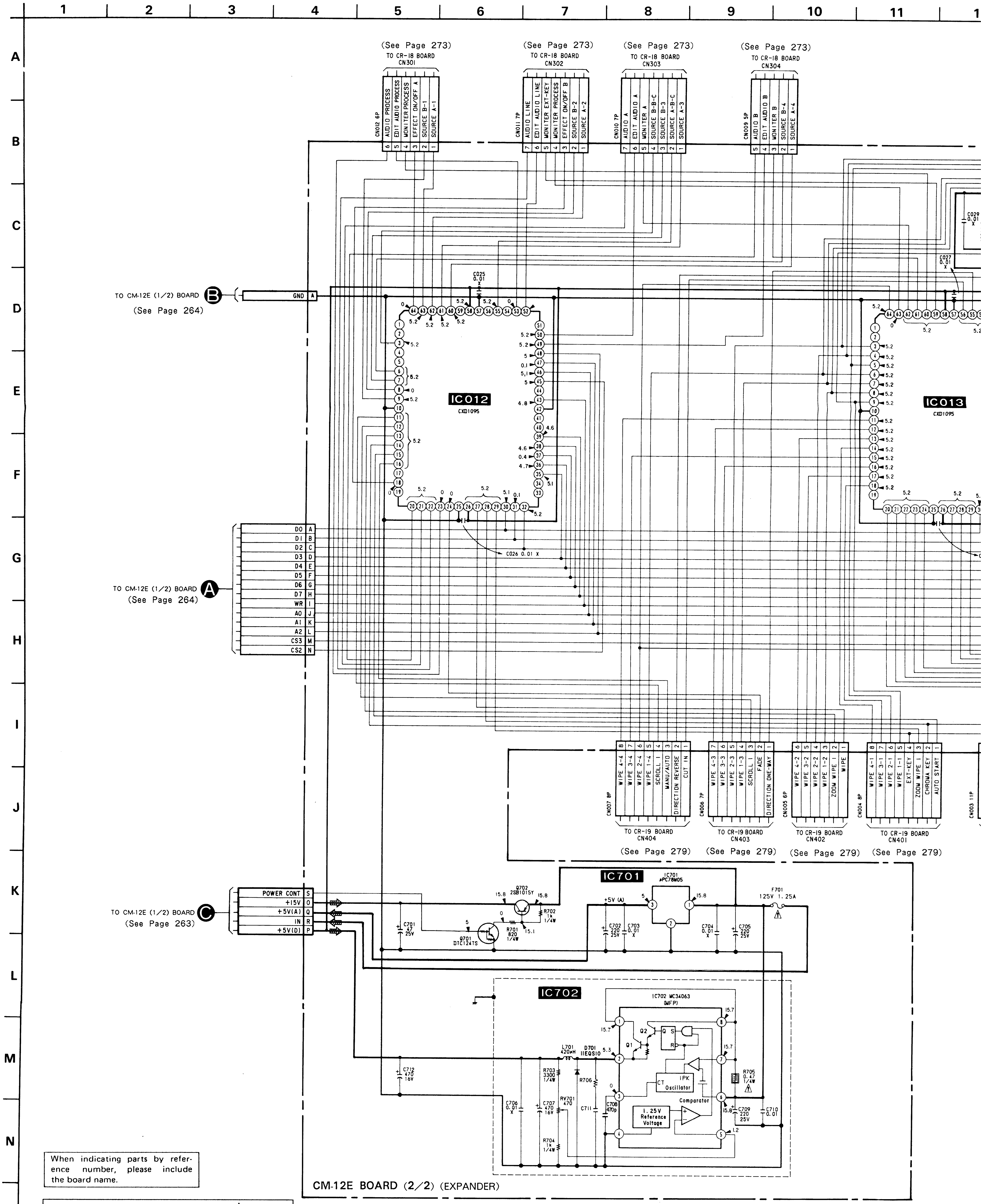
For printed wiring boards :

- o— : indicates a lead wire mounted on the componet side.
- •— : indicates a lead wire mounted on the printed side.
- ● : Through hole.
- ▨ : Pattern from the side which enables seeing.
- ░ : Pattern of the rear side.

When indicating parts by reference number, please include the board name.

## CM-12E (2/2) (KEY MICROCOMPUTER) SCHEMATIC DIAGRAM

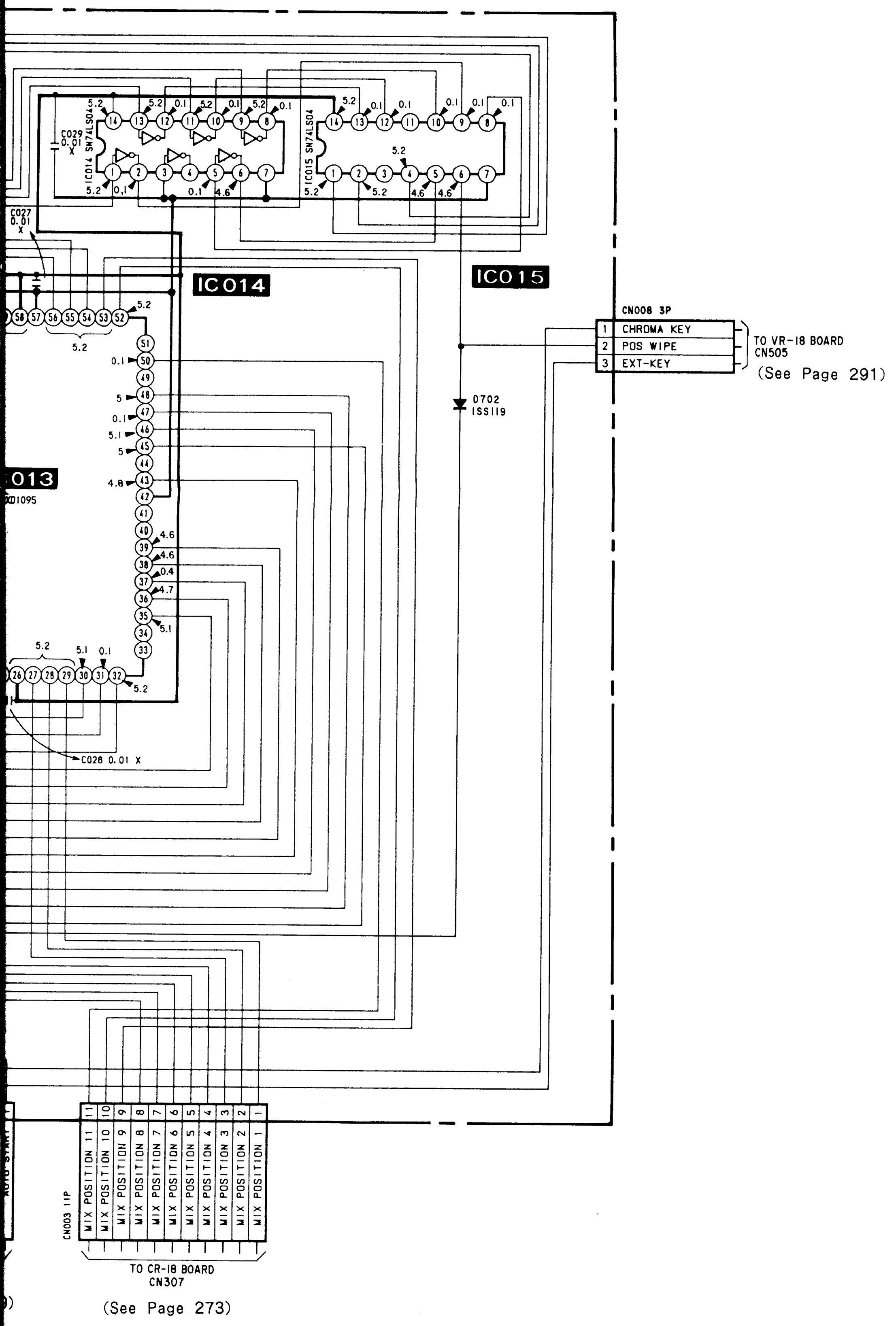
—Ref. No. CM-12E BOARD : 7,000 Series—



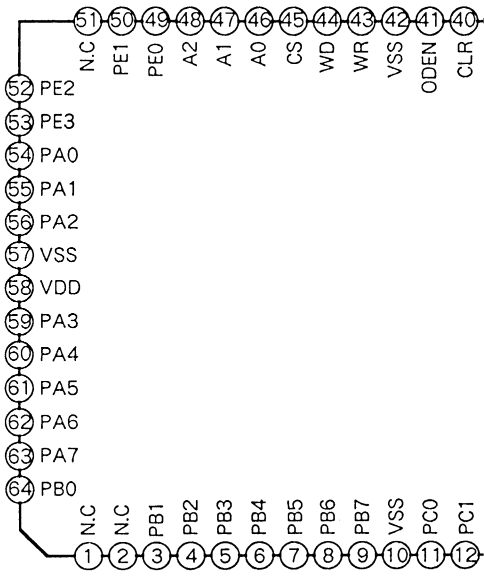
(See Page 273)
TO CR-18 BOARD CN301
CN012 6P
AUDIO PROCESS
EDIT AUDIO PROCESS
MONITER PROCESS
EFFECT ON/OFF A
SOURCE B-1
SOURCE A-1
TO CR-18 BOARD CN302
CN011 7P
AUDIO LINE
EDIT AUDIO LINE
MONITER EXT-KEY
MONITER PROCESS
EFFECT ON/OFF B
SOURCE B-2
SOURCE A-2
TO CR-18 BOARD CN303
CN010 7P
AUDIO A
EDIT AUDIO A
MONITER A
SOURCE B-B-C
SOURCE B-3
SOURCE A-B-C
SOURCE A-3
TO CR-18 BOARD CN304
CN009 5P
AUDIO B
EDIT AUDIO B
MONITER B
SOURCE B-4
SOURCE A-4
TO CM-12E (1/2) BOARD B
(See Page 264)
GND A
C025 0.01
IC012
CXD1095
IC013
CXD1095
C026 0.01 X
C027 0.01 X
C029 0.01 X
TO CM-12E (1/2) BOARD A
(See Page 264)
D0 A
D1 B
D2 C
D3 D
D4 E
D5 F
D6 G
D7 H
WR I
A0 J
A1 K
A2 L
CS3 M
CS2 N
CN007 8P
WIPE 4-4
WIPE 3-4
WIPE 2-4
WIPE 1-4
SCROLL 1
MANU/AUTO
DIRECTION REVERSE
CUT IN
TO CR-19 BOARD CN404
(See Page 279)
CN006 7P
WIPE 4-3
WIPE 3-3
WIPE 2-3
WIPE 1-3
SCROLL
FADE
DIRECTION ONE-WAY
TO CR-19 BOARD CN403
(See Page 279)
CN005 6P
WIPE 4-2
WIPE 3-2
WIPE 2-2
WIPE 1-2
ZOOM WIPE 1
WIPE
TO CR-19 BOARD CN402
(See Page 279)
CN004 8P
WIPE 4-1
WIPE 3-1
WIPE 1-1
EXT-KEY
ZOOM WIPE 1
CHROMA KEY
AUTO START
TO CR-19 BOARD CN401
(See Page 279)
CN003 11P
TO CM-12E (1/2) BOARD C
(See Page 263)
POWER CONT S
+15V O
+5V(A) Q
IN R
+5V(D) P
C701 47 25V
Q702 2SB1015Y
R702 1k 1/4W
R701 820 1/4W
Q701 DTC124TS
IC701
IC701 μPC78M05
+5V (A)
C702 220 25V
C703 0.01 X
C704 0.01 X
C705 220 25V
F701 125V 1.25A
IC702
IC702 MC34063 (MFP)
Q1
Q2
IPK Oscillator
CT
Comparator
1.25V Reference Voltage
L701 420μH
D701 11EQS10
C712 470 16V
R703 3300 1/4W
R706
R705 0.47 1/4W
C706 0.01 X
C707 470 16V
RV701 470
C711
C708 470p
C709 220 25V
C710 0.01
R704 1k 1/4W
CM-12E BOARD (2/2) (EXPANDER)

When indicating parts by reference number, please include the board name.

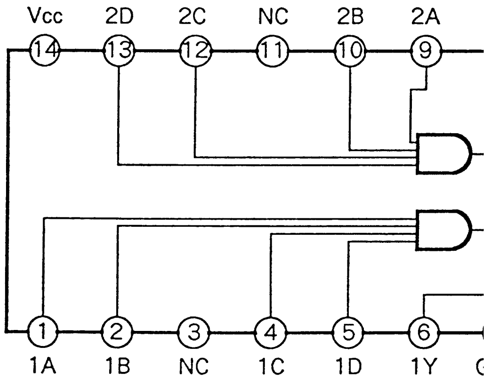
**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

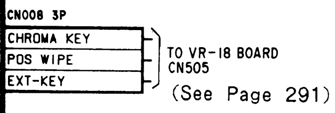

IC014 SN74LS04
IC015 SN74LS04
C029 0.01 X
C027 0.01 X
IC014
IC015
013
CXD1095
CN008 3P
1 CHROMA KEY
2 POS WIPE
3 EXT-KEY
TO VR-18 BOARD CN505
(See Page 291)
D702 1SS119
C028 0.01 X
CN003 11P
MIX POSITION 11
MIX POSITION 10
MIX POSITION 9
MIX POSITION 8
MIX POSITION 7
MIX POSITION 6
MIX POSITION 5
MIX POSITION 4
MIX POSITION 3
MIX POSITION 2
MIX POSITION 1
TO CR-18 BOARD CN307
(See Page 273)

**IC012 CXD1095Q**


N.C
PE1
PE0
A2
A1
A0
CS
WD
WR
VSS
ODEN
CLR
PE2
PE3
PA0
PA1
PA2
VSS
VDD
PA3
PA4
PA5
PA6
PA7
PB0
N.C
N.C
PB1
PB2
PB3
PB4
PB5
PB6
PB7
VSS
PC0
PC1

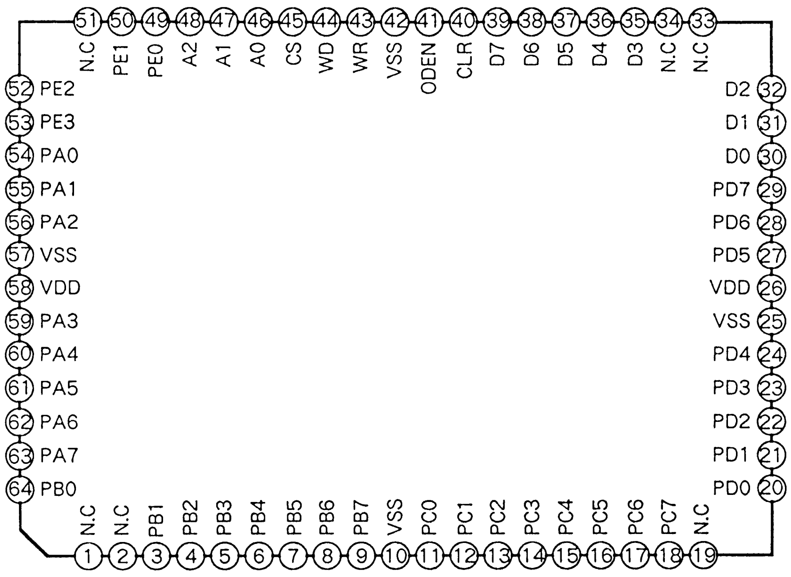
**IC015 SN74LS21**


Vcc
2D
2C
NC
2B
2A
1A
1B
NC
1C
1D
1Y

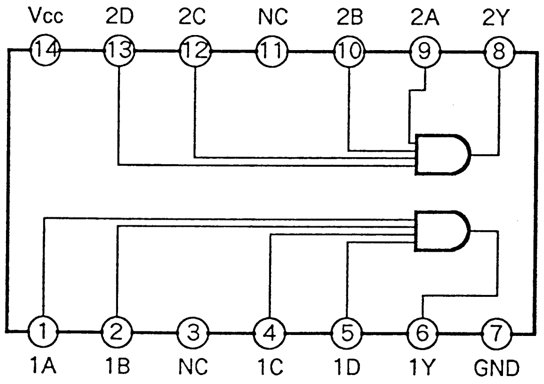

CN008 3P
CHROMA KEY
POS WIPE
EXT-KEY
TO VR-18 BOARD
CN505

(See Page 291)

IC012 CXD1095Q

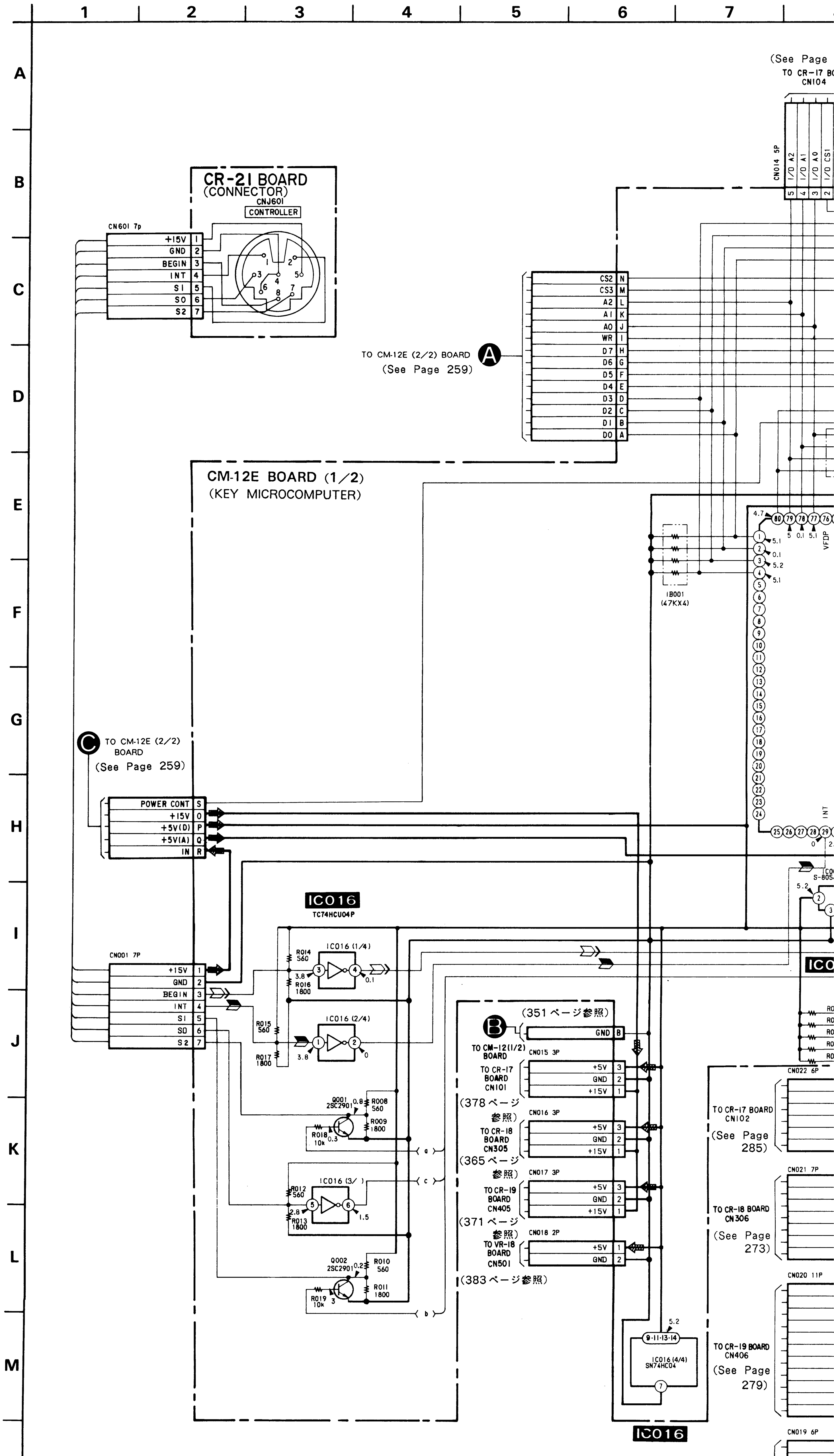

1 N.C
2 N.C
3 PB1
4 PB2
5 PB3
6 PB4
7 PB5
8 PB6
9 PB7
10 VSS
11 PC0
12 PC1
13 PC2
14 PC3
15 PC4
16 PC5
17 PC6
18 PC7
19 N.C
20 PD0
21 PD1
22 PD2
23 PD3
24 PD4
25 VSS
26 VDD
27 PD5
28 PD6
29 PD7
30 D0
31 D1
32 D2
33 N.C
34 N.C
35 D3
36 D4
37 D5
38 D6
39 D7
40 CLR
41 ODEN
42 VSS
43 WR
44 WD
45 CS
46 A0
47 A1
48 A2
49 PE0
50 PE1
51 N.C
52 PE2
53 PE3
54 PA0
55 PA1
56 PA2
57 VSS
58 VDD
59 PA3
60 PA4
61 PA5
62 PA6
63 PA7
64 PB0

IC015 SN74LS21


Vcc 14
2D 13
2C 12
NC 11
2B 10
2A 9
2Y 8
1A 1
1B 2
NC 3
1C 4
1D 5
1Y 6
GND 7

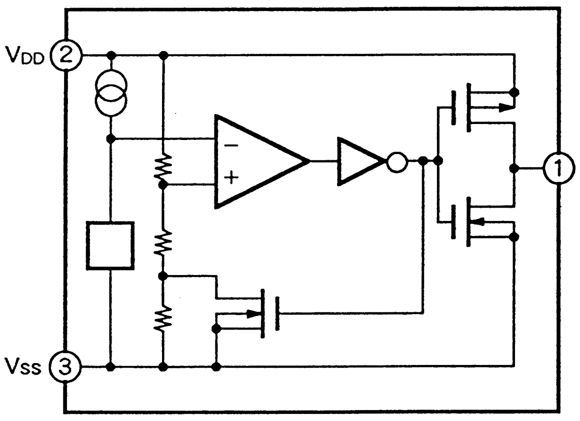
## CM-12E (1/2) (KEY MICROCOMPUTER), CR-21 (CONNECTOR), CS-13 (DEMO SWITCH) SCHEMATIC I

—Ref. No. CM-12E, CR-21 BOARDS : 7,000 Series, CS-21 BOARD 1,500 Series—



1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
K
L
M
N
(See Page
TO CR-17 BO
CN104
CN014 5P
I/O A2
I/O A1
I/O A0
I/O CS1
CR-21 BOARD
(CONNECTOR)
CNJ601
CONTROLLER
CN601 7p
+15V
GND
BEGIN
INT
SI
SO
S2
CS2
CS3
A2
A1
A0
WR
D7
D6
D5
D4
D3
D2
D1
D0
TO CM-12E (2/2) BOARD
A
(See Page 259)
CM-12E BOARD (1/2)
(KEY MICROCOMPUTER)
IB001
(47KX4)
VFDP
INT
C
TO CM-12E (2/2) BOARD
(See Page 259)
POWER CONT
+15V
+5V(D)
+5V(A)
IN
IC016
TC74HCU04P
IC016 (1/4)
IC016 (2/4)
IC016 (3/ )
IC016 (4/4)
SN74HC04
CN001 7P
R014 560
R016 1800
R015 560
R017 1800
Q001 2SC2901
R008 560
R009 1800
R018 10k
R012 560
R013 1800
Q002 2SC2901
R010 560
R011 1800
R019 10k
B
(351ページ参照)
TO CM-12(1/2) BOARD
GND
CN015 3P
TO CR-17 BOARD CN101
(378ページ参照)
CN016 3P
TO CR-18 BOARD CN305
(365ページ参照)
CN017 3P
TO CR-19 BOARD CN405
(371ページ参照)
CN018 2P
TO VR-18 BOARD CN501
(383ページ参照)
+5V
CN022 6P
TO CR-17 BOARD CN102
(See Page 285)
CN021 7P
TO CR-18 BOARD CN306
(See Page 273)
CN020 11P
TO CR-19 BOARD CN406
(See Page 279)
CN019 6P
TO VR-18 BOARD CN506
(See Page 291)
IC0
S-805

IC002 S-8054ALB



VDD ②
Vss ③
① OUT

When indicating parts by reference number, please include the board name.

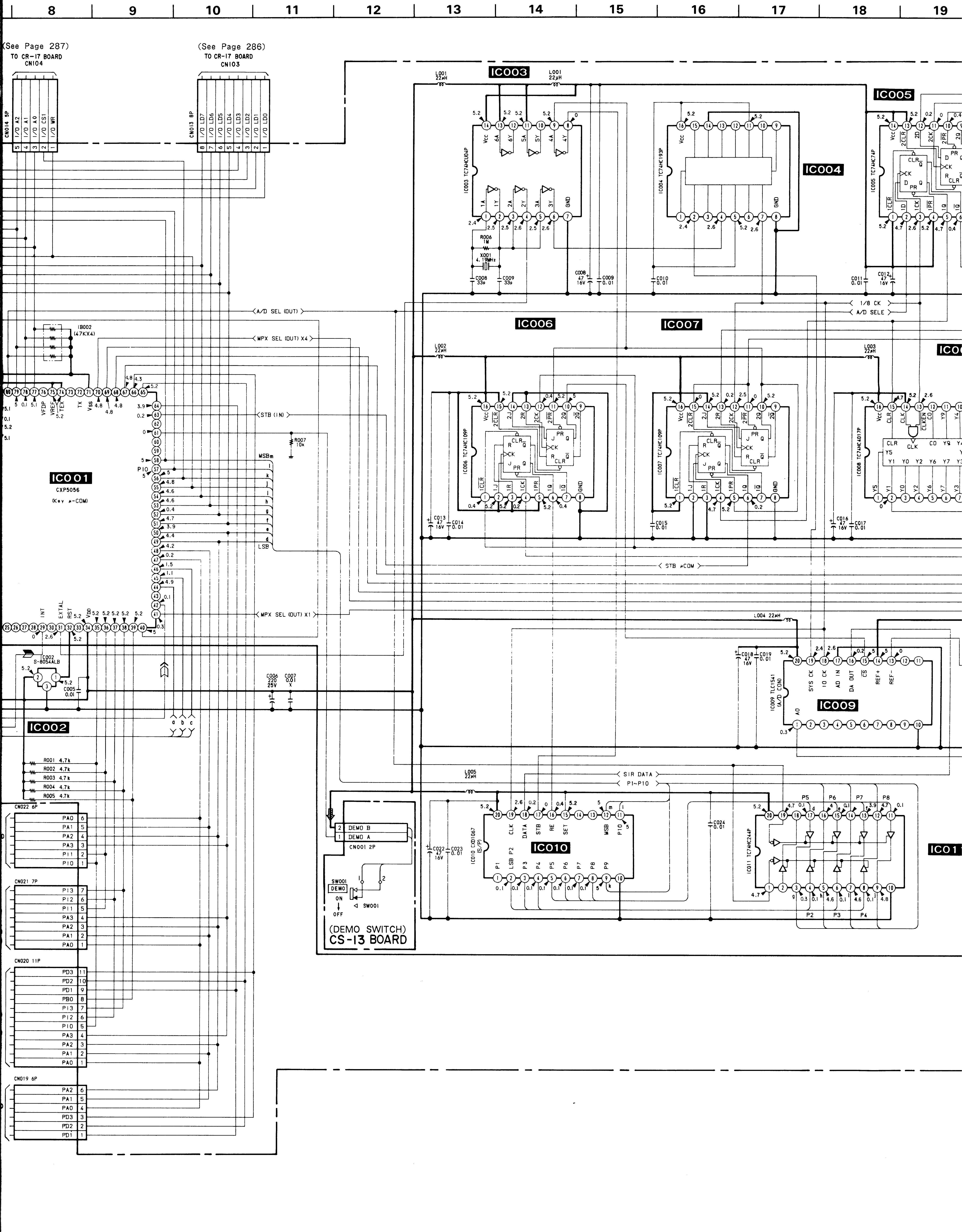
• Signal path

CONTROL Signal

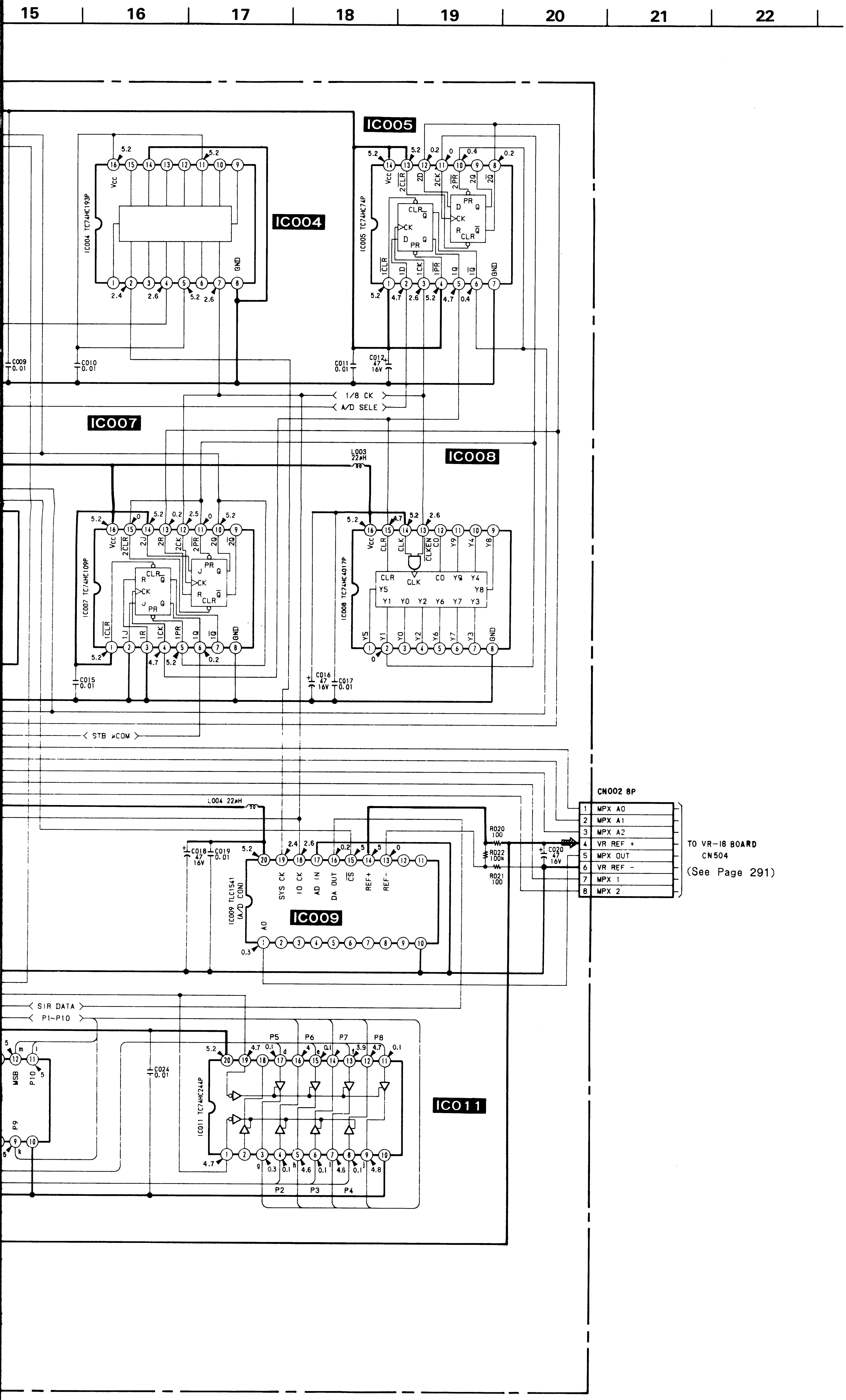
SC ➡

BEGIN ⇨

INT ➡


8
9
10
11
12
13
14
15
16
17
18
19
(See Page 287) TO CR-17 BOARD CN104
(See Page 286) TO CR-17 BOARD CN103
CN014 5P
I/O A2
I/O A1
I/O A0
I/O CS1
I/O WR
CN013 8P
I/O LD7
I/O LD6
I/O LD5
I/O LD4
I/O LD3
I/O LD2
I/O LD1
I/O LD0
IC003
TC74HCU04P
L001 22μH
R006 1M
X001 4.19MHz
C008 33p
C009 33p
C010 0.01
IC004
TC74HC193P
IC005
TC74HC74P
C011 0.01
C012 47 16V
1/8 CK
A/D SELE
A/D SEL (OUT)
MPX SEL (OUT) X4
IB002 (47KX4)
IC006
TC74HC109P
IC007
TC74HC109P
IC008
TC74HC4017P
L002 22μH
L003 22μH
STB (IN)
R007 10k
MSBm
LSB
IC001
CXP5056
(Key μ-COM)
VFDP
VREF
TEX
TX
Vss
INT
EXTAL
RST
VDD
C013 47 16V
C014 0.01
C015 0.01
C016 47 16V
C017 0.01
STB μCOM
MPX SEL (OUT) X1
L004 22μH
IC002
S-8054ALB
C005 0.01
C006 220 25V
C007 0.01
C018 47 16V
C019 0.01
IC009
TLC1541 (A/D CON)
SYS CK
IO CK
AD IN
DA OUT
CS
REF+
REF-
A0
R001 4.7k
R002 4.7k
R003 4.7k
R004 4.7k
R005 4.7k
L005 22μH
SIR DATA
P1~P10
CN022 6P
CN021 7P
CN020 11P
CN019 6P
PA0
PA1
PA2
PA3
PI1
PI0
PI3
PI2
PD3
PD2
PD1
PB0
DEMO B
DEMO A
CN001 2P
SW001 DEMO
ON
OFF
SW001
(DEMO SWITCH)
CS-13 BOARD
IC010
CXD1067 (S/P)
CLK
DATA
STB
RE
SET
MSB
P10
LSB P2
C022 47 16V
C023 0.01
C024 0.01
IC011
TC74HC244P
P5
P6
P7
P8
P2
P3
P4

KEY MICON KEY MICO

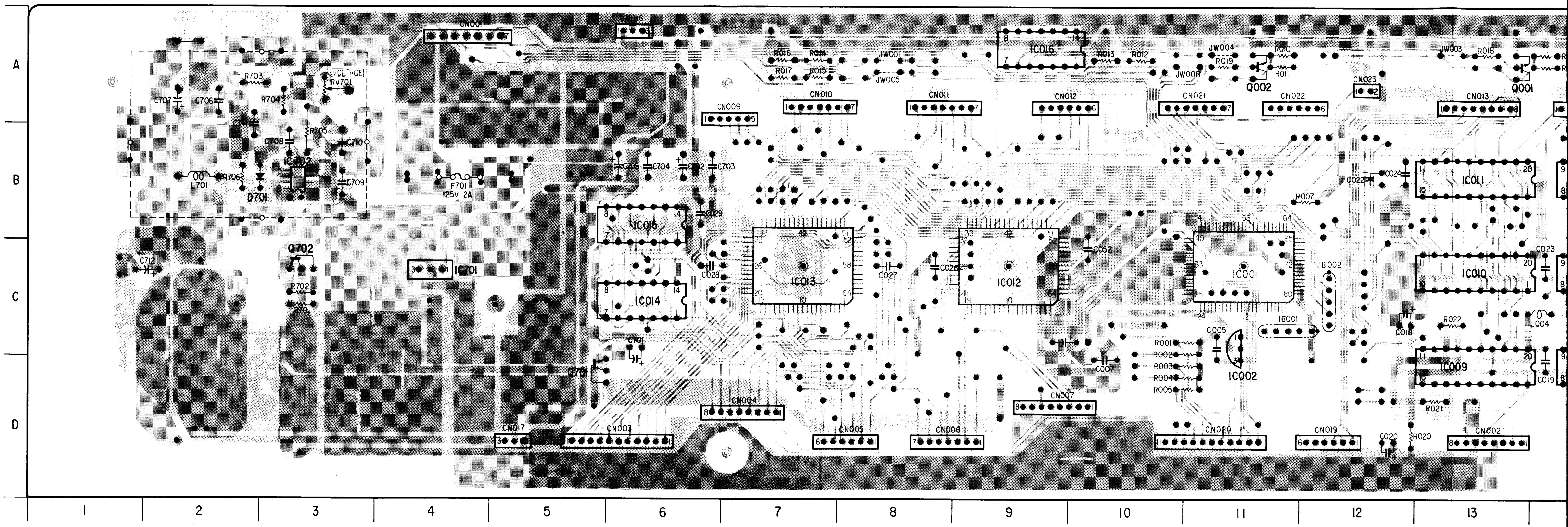

15
16
17
18
19
20
21
22
IC004
IC004 TC74HC193P
IC005
IC005 TC74HC74P
IC007
IC007 TC74HC109P
IC008
IC008 TC74HC4017P
IC009
IC009 TLC1541 (A/D CON)
IC011
IC011 TC74HC244P
1/8 CK
A/D SELE
STB #COM
SIR DATA
P1~P10
L003 22μH
L004 22μH
C009 0.01
C010 0.01
C011 0.01
C012 47 16V
C015 0.01
C016 47 16V
C017 0.01
C018 47 16V
C019 0.01
C020 47 16V
C024 0.01
R020 100
R022 100k
R021 100
CN002 8P
1 MPX A0
2 MPX A1
3 MPX A2
4 VR REF +
5 MPX OUT
6 VR REF −
7 MPX 1
8 MPX 2
TO VR-18 BOARD CN504
(See Page 291)

KEY MICON KEY MICON

## CM-12E (KEY MICROCOMPUTER), CR-21 (CONNECTOR), CS-13 (DEMO SWITCH) PRINTED WIRING BOARDS

—Ref. No. CM-12E, CR-21 BOARDS : 7,000 Series, CS-21 BOARD 1,500 Series—

**CM-12E** BOARD



A
B
C
D
1
2
3
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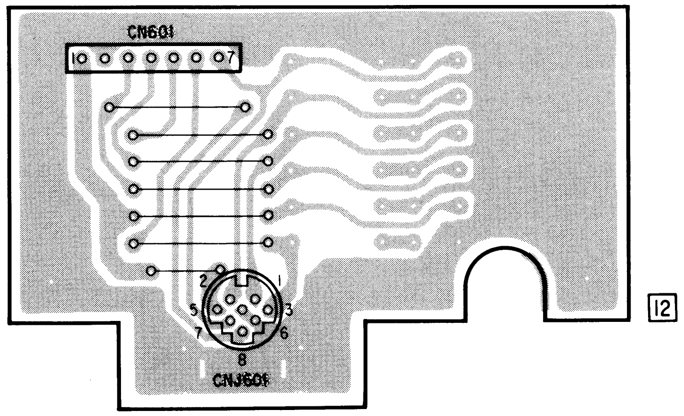
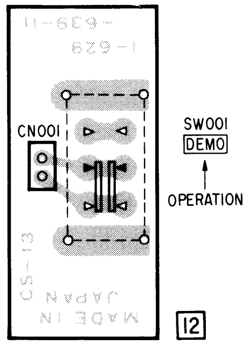
5
6
7
8
9
10
11
12
13
CN001
CN016
IC016
R016
R014
R017
R015
JW001
JW005
R013
R012
JW004
JW008
R019
R010
R011
Q002
CN023
JW003
R018
Q001
CN009
CN010
CN011
CN012
CN021
CN022
CN013
R703
VOLTAGE
RV701
C707
C706
R704
C711
R705
C708
C710
IC702
L701
R706
D701
C709
F701
125V 2A
C705
C704
C702
C703
IC015
C029
IC011
C022
C024
R007
Q702
C712
IC701
R702
R701
IC013
IC012
IC001
C028
C027
C026
C052
IB002
C023
IC010
IC014
C701
Q701
IB001
C005
R001
R002
R003
R004
R005
IC002
C007
R022
L004
C018
IC009
C019
CN004
CN007
R021
CN017
CN003
CN005
CN006
CN020
CN019
C020
R020
CN002

**CR-21** BOARD



CN601
CNJ501
12

**CS-13** BOARD



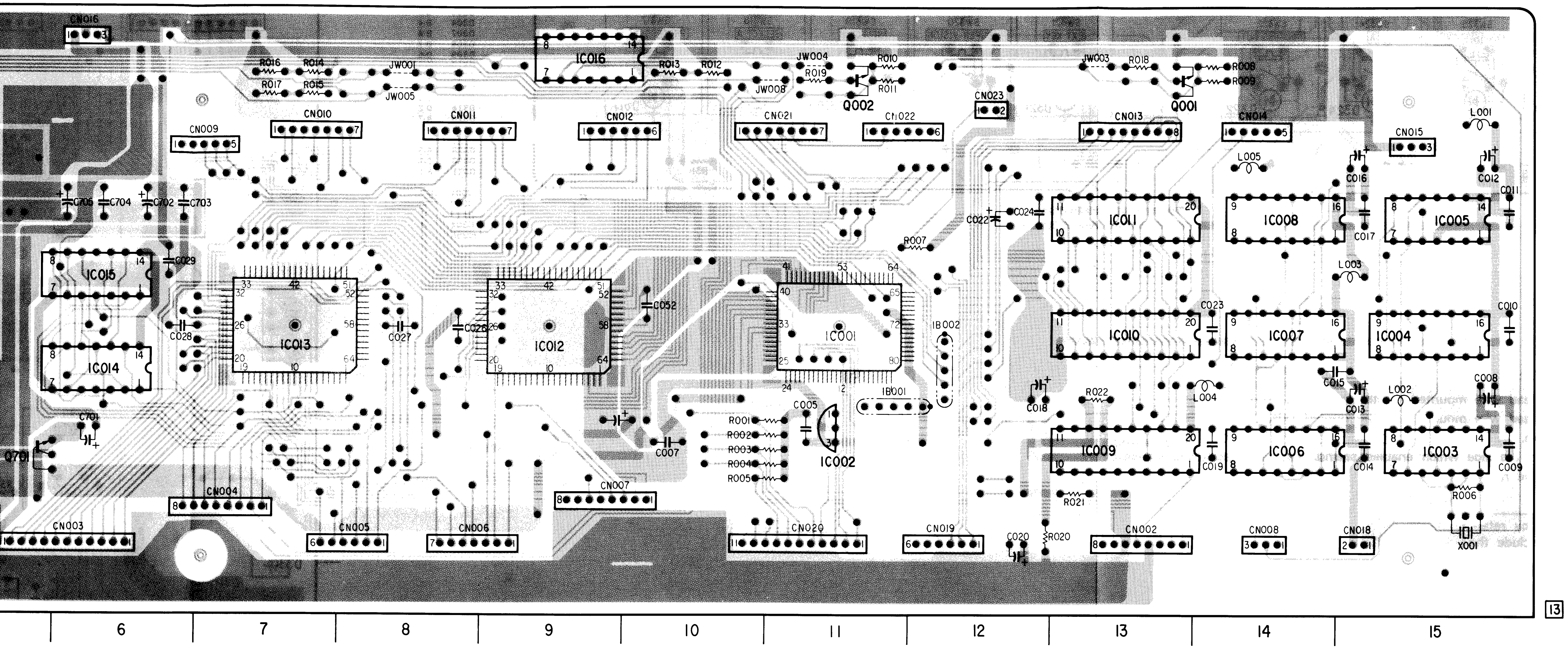
CN001
SW001
DEMO
OPERATION
CS-13
MADE IN JAPAN
12

For printed wiring boards :

- o— : indicates a lead wire mounted on the componet side.
- ●— : indicates a lead wire mounted on the printed side.
- ● : Through hole.
- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

When indicating parts by reference number, please include the board name.

## CH) PRINTED WIRING BOARDS



CN016
CN009
CN010
CN011
CN012
CN021
CN022
CN023
CN013
CN014
CN015
IC016
R016
R014
R017
R015
JW001
JW005
R013
R012
JW004
R019
JW008
R010
R011
Q002
JW003
R018
R008
R009
Q001
L001
L005
C016
C012
C011
C705
C704
C702
C703
C029
IC015
IC014
IC013
IC012
IC001
IC002
IC011
IC008
IC005
IC010
IC007
IC004
IC009
IC006
IC003
C028
C027
C026
C052
R007
C022
C024
IB002
IB001
C023
C017
L003
C010
C018
R022
L004
C015
C013
L002
C008
C019
C014
C009
C005
R001
R002
R003
R004
R005
C007
C701
Q701
CN004
CN003
CN005
CN006
CN007
CN020
CN019
C020
R020
R021
CN002
CN008
CN018
R006
X001
6
7
8
9
10
11
12
13
14
15
13

CM-12E BOARD

| | |
|---|---|
| D701 | B-2 |
| | |
| IC001 | C-11 |
| IC002 | C-11 |
| IC003 | D-15 |
| IC004 | C-15 |
| IC005 | B-15 |
| IC006 | D-14 |
| IC007 | C-14 |
| IC008 | B-14 |
| IC009 | D-13 |
| IC010 | C-13 |
| IC011 | B-13 |
| IC012 | C-9 |
| IC013 | C-7 |
| IC014 | C-6 |
| IC015 | B-6 |
| IC016 | A-9 |
| IC701 | C-4 |
| IC702 | B-3 |
| | |
| Q001 | A-13 |
| Q002 | A-11 |
| Q701 | D-5 |
| Q702 | C-3 |

For printed wiring boards :

- o— : indicates a lead wire mounted on the componet side.
- •— : indicates a lead wire mounted on the printed side.
- ● : Through hole.
- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

When indicating parts by reference number, please include the board name.

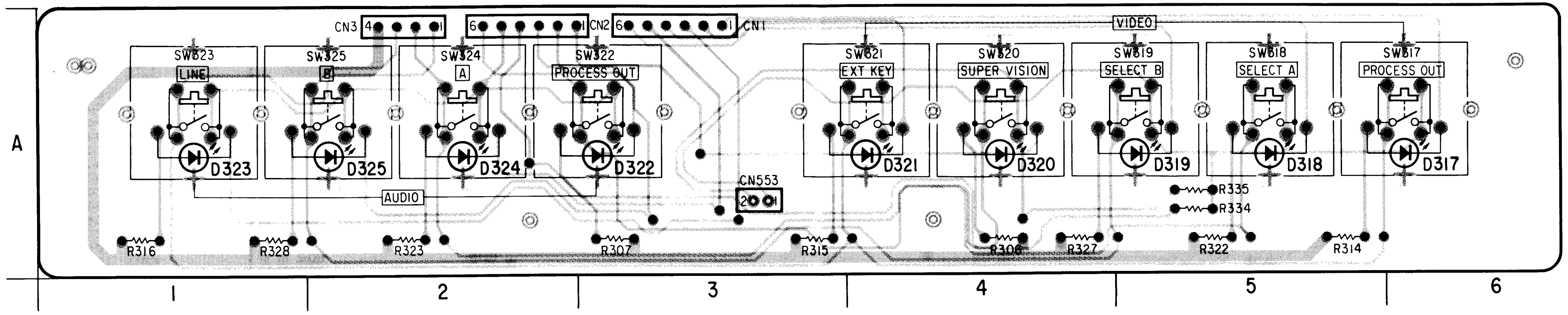
## CR-18 (LINE SELECT), CR-20 (MINITOR SELECT) PRINTED WIRING BOARDS

—Ref. No. CR-18, CR-20 BOARDS : 7,000 Series—

CR-20 BOARD

| | |
|---|---|
| D317 | A-6 |
| D318 | A-5 |
| D319 | A-5 |
| D320 | A-4 |
| D321 | A-4 |
| D322 | A-3 |
| D323 | A-1 |
| D324 | A-2 |
| D325 | A-2 |

CR-20 BOARD


A
CN3
CN2
CN1
SW323
LINE
SW325
B
SW324
A
SW322
PROCESS OUT
SW321
EXT KEY
SW320
SUPER VISION
VIDEO
SW319
SELECT B
SW318
SELECT A
SW317
PROCESS OUT
D323
D325
D324
D322
D321
D320
D319
D318
D317
AUDIO
CN553
R335
R334
R316
R328
R323
R307
R315
R308
R327
R322
R314
1
2
3
4
5
6

For printed wiring boards :

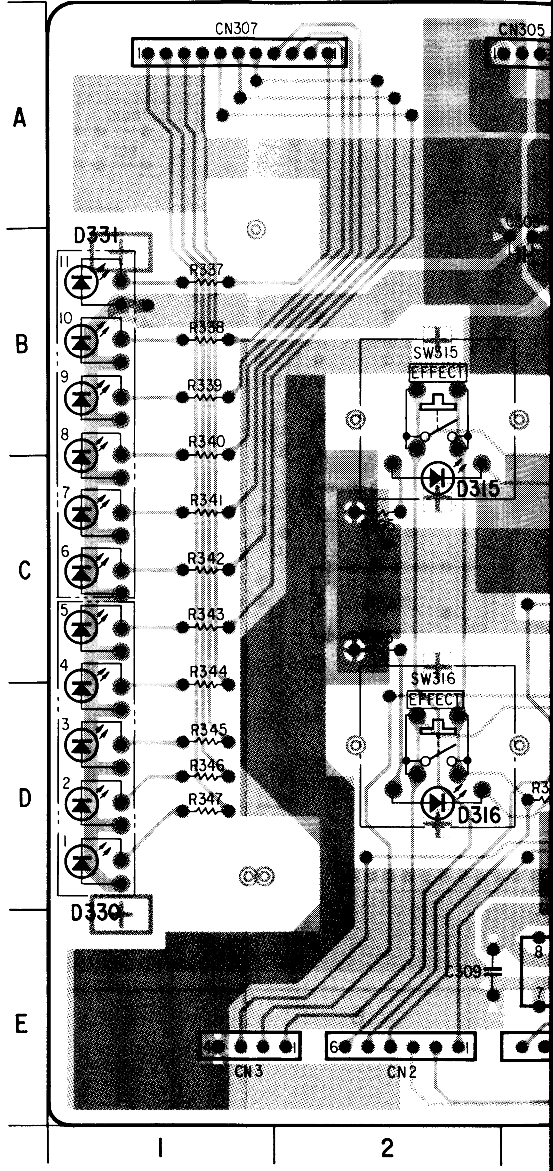
- o— : indicates a lead wire mounted on the componet side.
- ●— : indicates a lead wire mounted on the printed side.
- ● : Through hole.
- ▨ : Pattern from the side which enables seeing.
- ░ : Pattern of the rear side.

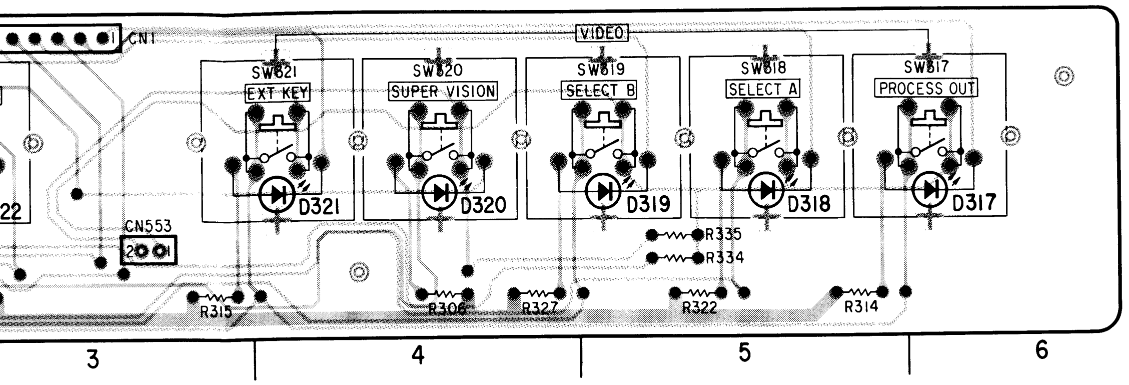
When indicating parts by reference number, please include the board name.

CR-18 BOARD

| | |
|---|---|
| D301 | B-7 |
| D302 | B-6 |
| D303 | B-5 |
| D304 | B-4 |
| D307 | B-4 |
| D308 | D-7 |
| D309 | D-6 |
| D310 | D-5 |
| D311 | D-4 |
| D314 | D-4 |
| D315 | C-2 |
| D316 | D-2 |
| D326 | A-7 |
| D327 | A-5 |
| D328 | A-6 |
| D329 | A-5 |
| D330 | C-1 |
| D331 | B-1 |
| | |
| IC301 | E-7 |
| IC302 | E-6 |
| IC303 | E-5 |
| IC304 | E-4 |
| IC305 | E-3 |

CR-18 BOARD

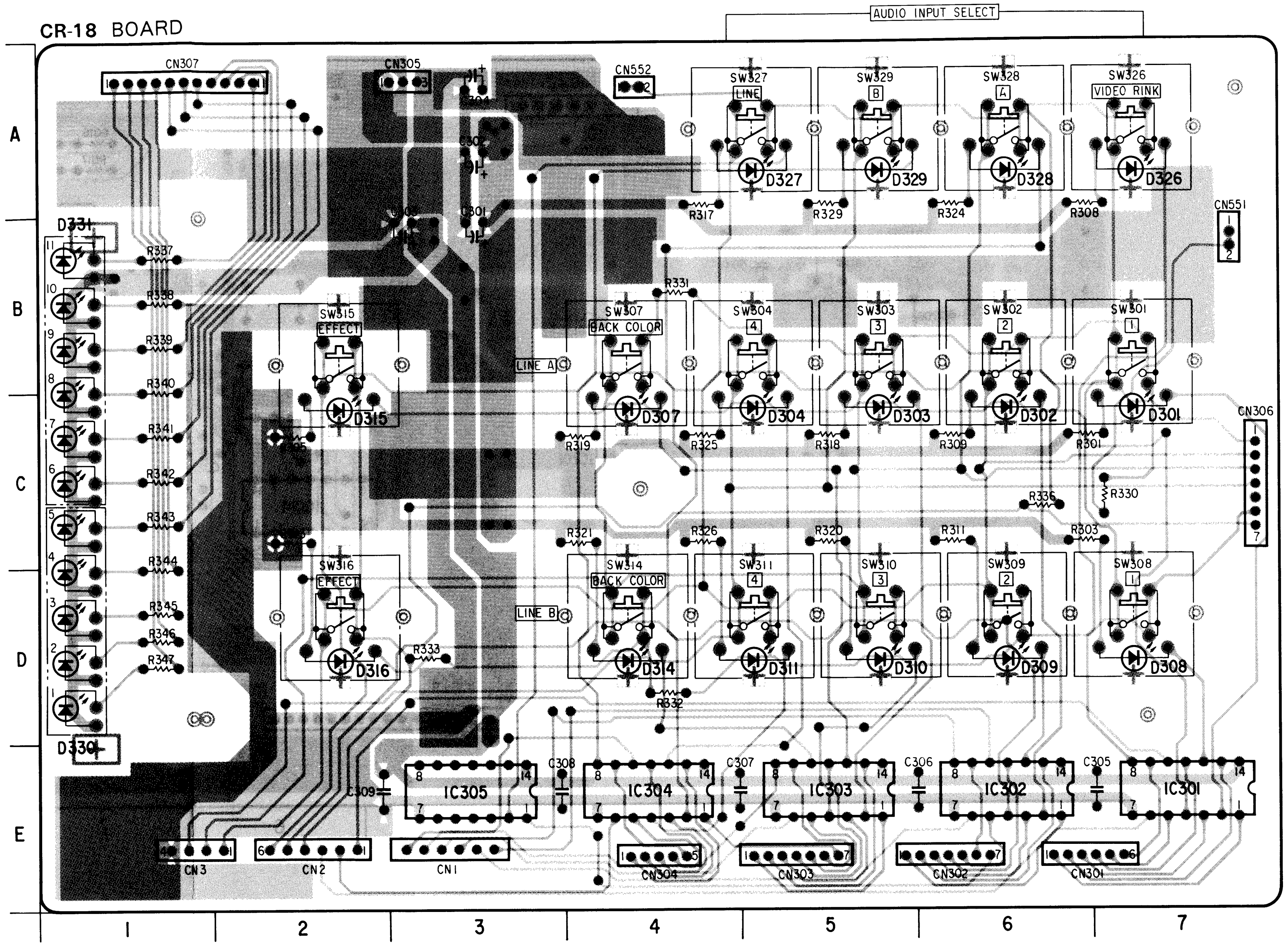

CN307
CN305
A
B
C
D
E
D331
D330
R337
R338
R339
R340
R341
R342
R343
R344
R345
R346
R347
SW315
EFFECT
D315
SW316
EFFECT
D316
C309
CN3
CN2
1
2


CN1
VIDEO
SW621
EXT KEY
SW620
SUPER VISION
SW619
SELECT B
SW618
SELECT A
SW617
PROCESS OUT
22
D321
D320
D319
D318
D317
CN553
R335
R334
R315
R306
R327
R322
R314
3
4
5
6

CR-18 BOARD

| | |
|---|---|
| D301 | B-7 |
| D302 | B-6 |
| D303 | B-5 |
| D304 | B-4 |
| D307 | B-4 |
| D308 | D-7 |
| D309 | D-6 |
| D310 | D-5 |
| D311 | D-4 |
| D314 | D-4 |
| D315 | C-2 |
| D316 | D-2 |
| D326 | A-7 |
| D327 | A-5 |
| D328 | A-6 |
| D329 | A-5 |
| D330 | C-1 |
| D331 | B-1 |
| | |
| IC301 | E-7 |
| IC302 | E-6 |
| IC303 | E-5 |
| IC304 | E-4 |
| IC305 | E-3 |

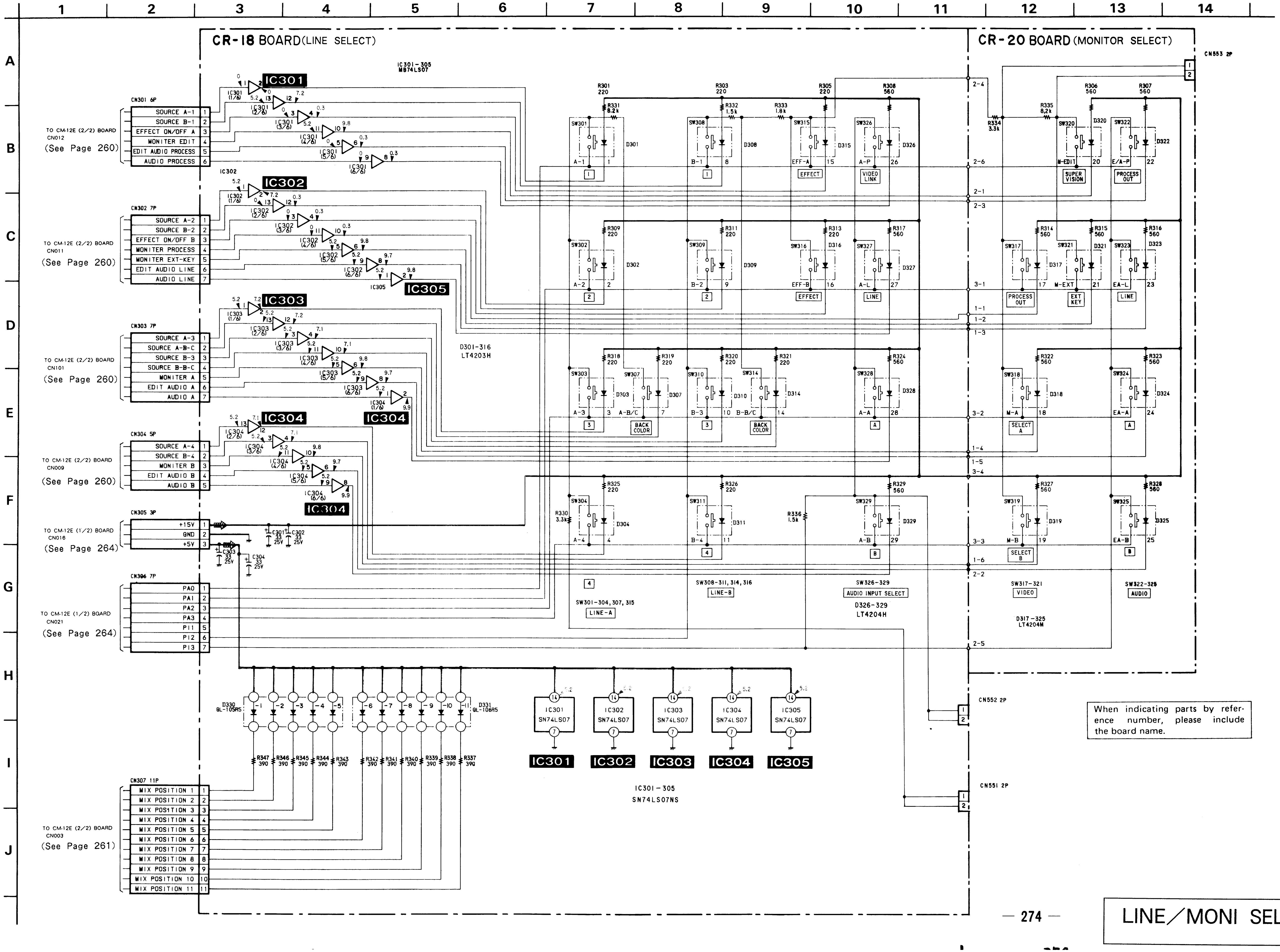
CR-18 BOARD


AUDIO INPUT SELECT
CN307
CN305
CN552
SW327
LINE
SW329
B
SW328
A
SW326
VIDEO RINK
D327
D329
D328
D326
R317
R329
R324
R308
CN551
D331
R337
R338
R339
R340
R341
R342
R343
R344
R345
R346
R347
R331
SW315
EFFECT
D315
LINE A
SW307
BACK COLOR
SW304
4
SW303
3
SW302
2
SW301
1
D307
D304
D303
D302
D301
CN306
R319
R325
R318
R309
R301
R336
R330
R321
R326
R320
R311
R303
SW316
EFFECT
D316
R333
LINE B
SW314
BACK COLOR
SW311
4
SW310
3
SW309
2
SW308
1
D314
D311
D310
D309
D308
R332
D330
C309
C308
C307
C306
C305
IC305
IC304
IC303
IC302
IC301
CN3
CN2
CN1
CN304
CN303
CN302
CN301
A
B
C
D
E
1
2
3
4
5
6
7

LINE／MONI SELECT　LINE／MONI SELECT

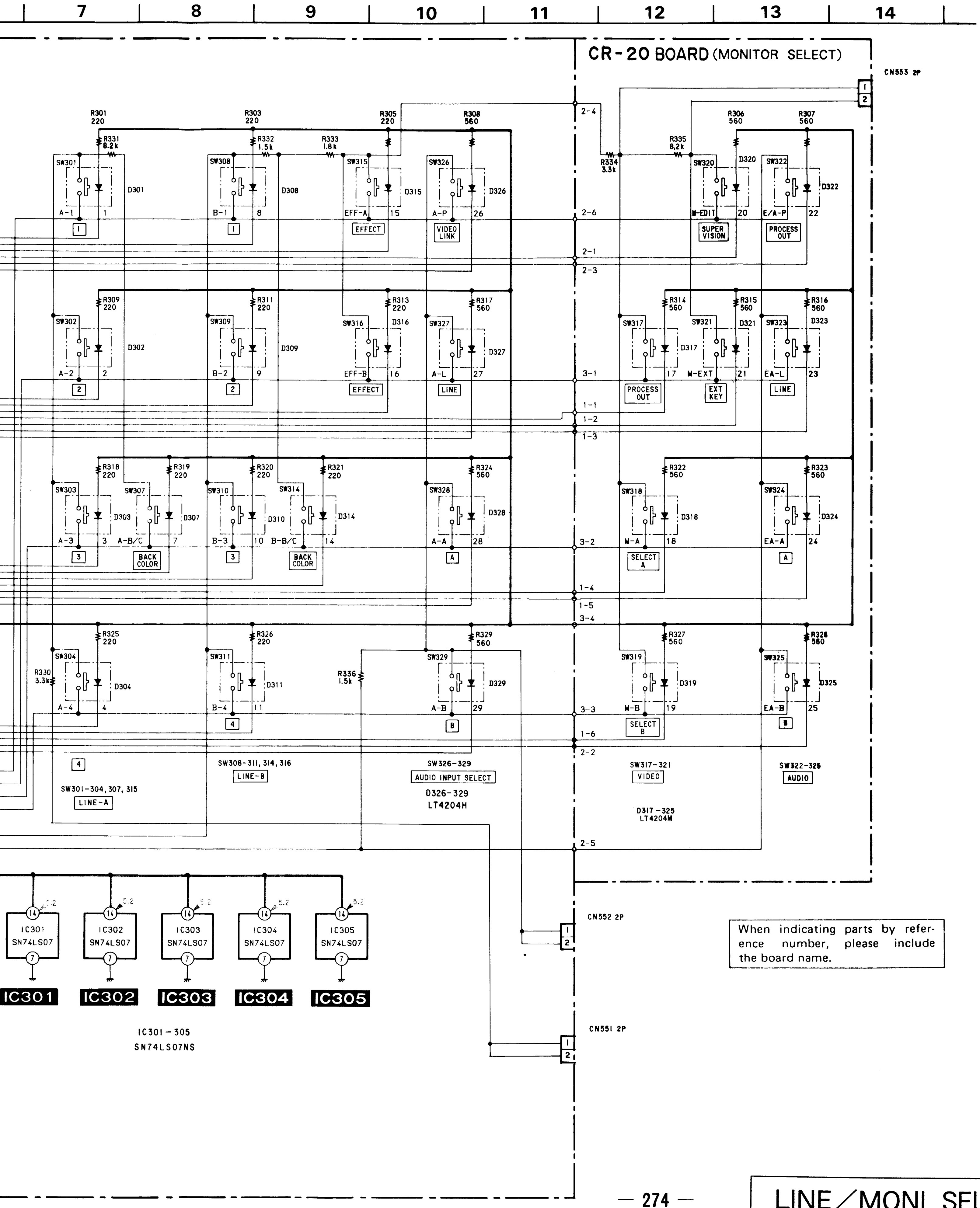
## CR-18 (LINE SELECT), CR-20 (MINITOR SELECT) SCHEMATIC DIAGRAMS

—Ref. No. CR-18, CR-20 BOARDS : 7,000 Series—



1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
CR-18 BOARD (LINE SELECT)
CR-20 BOARD (MONITOR SELECT)
IC301-305
M874LS07
IC301
IC302
IC303
IC304
IC305
CN301 6P
SOURCE A-1
SOURCE B-1
EFFECT ON/OFF A
MONITER EDIT
EDIT AUDIO PROCESS
AUDIO PROCESS
TO CM-12E (2/2) BOARD CN012
(See Page 260)
CN302 7P
SOURCE A-2
SOURCE B-2
EFFECT ON/OFF B
MONITER PROCESS
MONITER EXT-KEY
EDIT AUDIO LINE
AUDIO LINE
TO CM-12E (2/2) BOARD CN011
(See Page 260)
CN303 7P
SOURCE A-3
SOURCE A-B-C
SOURCE B-3
SOURCE B-B-C
MONITER A
EDIT AUDIO A
AUDIO A
TO CM-12E (2/2) BOARD CN101
(See Page 260)
CN304 5P
SOURCE A-4
SOURCE B-4
MONITER B
EDIT AUDIO B
AUDIO B
TO CM-12E (2/2) BOARD CN009
(See Page 260)
CN305 3P
+15V
GND
+5V
TO CM-12E (1/2) BOARD CN016
(See Page 264)
C301 33 25V
C302 33 25V
C303 33 25V
C304 33 25V
CN306 7P
PA0
PA1
PA2
PA3
PI1
PI2
PI3
TO CM-12E (1/2) BOARD CN021
(See Page 264)
CN307 11P
MIX POSITION 1
MIX POSITION 2
MIX POSITION 3
MIX POSITION 4
MIX POSITION 5
MIX POSITION 6
MIX POSITION 7
MIX POSITION 8
MIX POSITION 9
MIX POSITION 10
MIX POSITION 11
TO CM-12E (2/2) BOARD CN003
(See Page 261)
D301-316
LT4203H
R301 220
R303 220
R305 220
R308 560
R331 8.2k
R332 1.5k
R333 1.8k
SW301
SW308
SW315
SW326
D301
D308
D315
D326
A-1
B-1
EFF-A
A-P
EFFECT
VIDEO LINK
SW302
SW309
SW316
SW327
D302
D309
D316
D327
R309 220
R311 220
R313 220
R317 560
A-2
B-2
EFF-B
A-L
EFFECT
LINE
SW303
SW307
SW310
SW314
SW328
D303
D307
D310
D314
D328
R318 220
R319 220
R320 220
R321 220
R324 560
A-3
A-B/C
B-3
B-B/C
A-A
BACK COLOR
SW304
SW311
SW329
D304
D311
D329
R325 220
R326 220
R329 560
R330 3.3k
R336 1.5k
A-4
B-4
A-B
SW301-304, 307, 315
LINE-A
SW308-311, 314, 316
LINE-B
SW326-329
AUDIO INPUT SELECT
D326-329
LT4204H
R306 560
R307 560
R334 3.3k
R335 8.2k
SW320
SW322
D320
D322
M-EDIT
E/A-P
SUPER VISION
PROCESS OUT
SW317
SW321
SW323
D317
D321
D323
R314 560
R315 560
R316 560
M-EXT
EA-L
PROCESS OUT
EXT KEY
LINE
SW318
SW324
D318
D324
R322 560
R323 560
M-A
EA-A
SELECT A
SW319
SW325
D319
D325
R327 560
R328 560
M-B
EA-B
SELECT B
SW317-321
VIDEO
SW322-325
AUDIO
D317-325
LT4204M
CN553 2P
CN552 2P
CN551 2P
D330
GL-105R5
D331
GL-106R5
R347 390
R346 390
R345 390
R344 390
R343 390
R342 390
R341 390
R340 390
R339 390
R338 390
R337 390
IC301 SN74LS07
IC302 SN74LS07
IC303 SN74LS07
IC304 SN74LS07
IC305 SN74LS07
IC301-305
SN74LS07NS

When indicating parts by reference number, please include the board name.



7
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13
14
CR-20 BOARD (MONITOR SELECT)
CN553 2P
CN552 2P
CN551 2P
SW301 A-1 D301
SW302 A-2 D302
SW303 A-3 D303
SW304 A-4 D304
SW307 A-B/C D307 BACK COLOR
SW308 B-1 D308
SW309 B-2 D309
SW310 B-3 D310
SW311 B-4 D311
SW314 B-B/C D314 BACK COLOR
SW315 EFF-A D315 EFFECT
SW316 EFF-B D316 EFFECT
SW326 A-P D326 VIDEO LINK
SW327 A-L D327 LINE
SW328 A-A D328 A
SW329 A-B D329 B
SW320 M-EDIT D320 SUPER VISION
SW322 E/A-P D322 PROCESS OUT
SW317 D317 PROCESS OUT
SW321 M-EXT D321 EXT KEY
SW323 EA-L D323 LINE
SW318 M-A D318 SELECT A
SW324 EA-A D324 A
SW319 M-B D319 SELECT B
SW325 EA-B D325 B
SW301-304, 307, 315 LINE-A
SW308-311, 314, 316 LINE-B
SW326-329 AUDIO INPUT SELECT
D326-329 LT4204H
SW317-321 VIDEO
SW322-325 AUDIO
D317-325 LT4204M
IC301 SN74LS07
IC302 SN74LS07
IC303 SN74LS07
IC304 SN74LS07
IC305 SN74LS07
IC301-305 SN74LS07NS

When indicating parts by reference number, please include the board name.

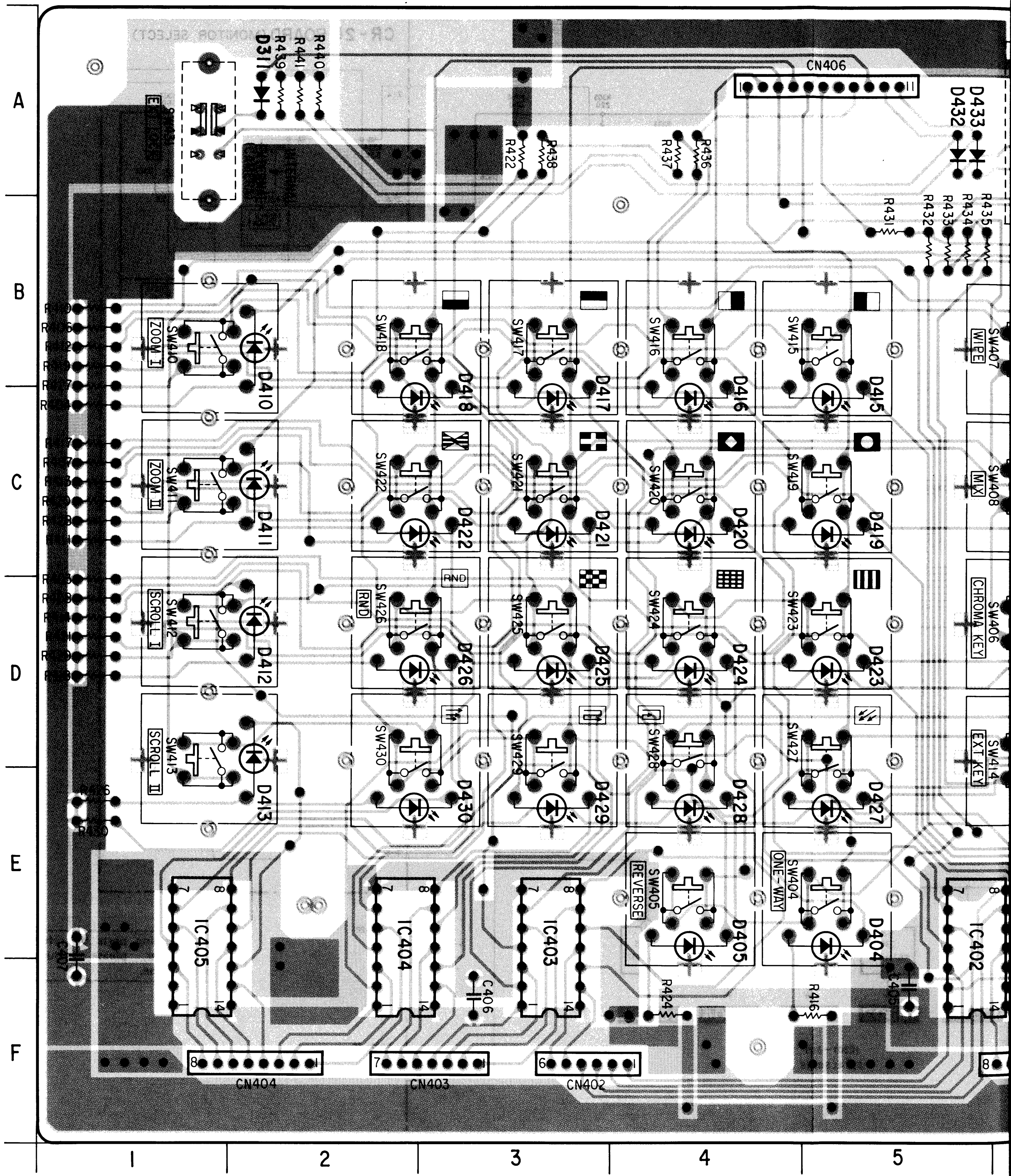
## VR-26 (FADER VR), CR-19 (WIPE EXT KEY) PRINTED WIRING BOARDS

—Ref. No. VR-26 BOARD : 1,000 Series, CR-19 BOARD 7,000 Series—

CR-19 BOARD

| | |
|---|---|
| D402 | E-8 |
| D403 | E-7 |
| D404 | E-5 |
| D405 | E-4 |
| D406 | D-6 |
| D407 | B-6 |
| D408 | C-6 |
| D409 | E-7 |
| D410 | B-2 |
| D411 | C-2 |
| D412 | D-2 |
| D413 | D-2 |
| D414 | D-6 |
| D415 | B-5 |
| D416 | B-4 |
| D417 | B-3 |
| D418 | B-2 |
| D419 | C-5 |
| D420 | C-4 |
| D421 | C-3 |
| D422 | C-2 |
| D423 | D-4 |
| D424 | D-4 |
| D425 | D-3 |
| D426 | D-2 |
| D427 | E-5 |
| D428 | E-4 |
| D429 | E-3 |
| D430 | E-2 |
| D431 | A-2 |
| D432 | A-5 |
| D433 | A-5 |
| | |
| IC401 | E-6 |
| IC402 | E-5 |
| IC403 | E-3 |
| IC404 | E-2 |
| IC405 | E-1 |

CR-19 BOARD


A
B
C
D
E
F
1
2
3
4
5
CN406
D433
D432
R440
R441
R439
D431
R422
R438
R437
R436
R431
R432
R433
R434
R435
ZOOM I
SW410
D410
ZOOM II
SW411
D411
SCROLL I
SW412
D412
SCROLL II
SW413
D413
SW418
D418
SW417
D417
SW416
D416
SW415
D415
SW422
D422
SW421
D421
SW420
D420
SW419
D419
RND
SW426
D426
SW425
D425
SW424
D424
SW423
D423
SW430
D430
SW429
D429
SW428
D428
SW427
D427
WIPE
SW407
MIX
SW408
CHROMA KEY
SW406
EXT KEY
SW414
REVERSE
SW405
D405
ONE-WAY
SW404
D404
IC405
IC404
IC403
IC402
C406
R424
R416
CN404
CN403
CN402

For printed wiring boards :

- ○— : indicates a lead wire mounted on the componet side.
- ●— : indicates a lead wire mounted on the printed side.
- ● : Through hole.
- ▨ : Pattern from the side which enables seeing.
- ░ : Pattern of the rear side.

When indicating parts by reference number, please include the board name.

**BOARDS**

CR-19 BOARD

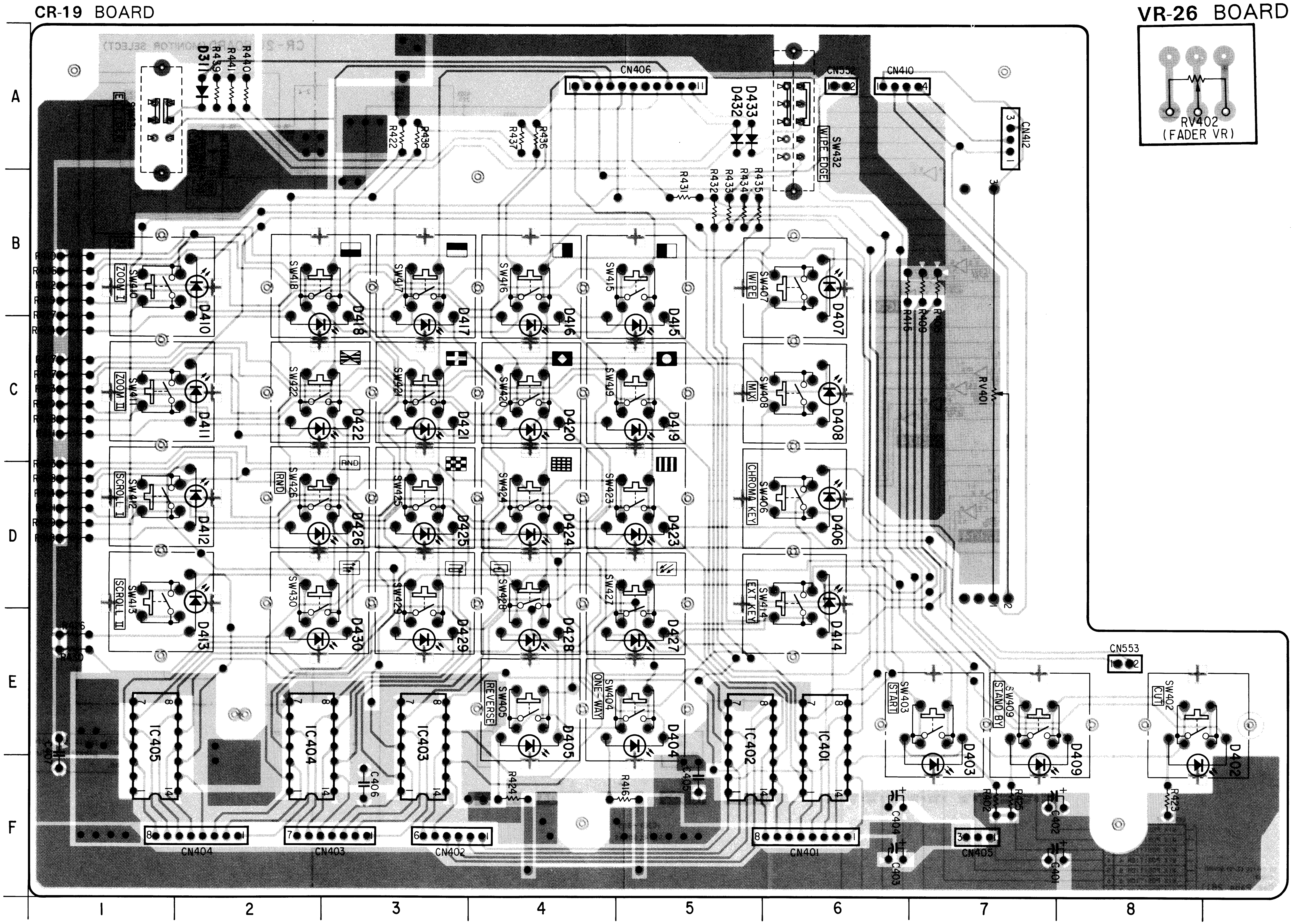
| | |
|---|---|
| D402 | E-8 |
| D403 | E-7 |
| D404 | E-5 |
| D405 | E-4 |
| D406 | D-6 |
| D407 | B-6 |
| D408 | C-6 |
| D409 | E-7 |
| D410 | B-2 |
| D411 | C-2 |
| D412 | D-2 |
| D413 | D-2 |
| D414 | D-6 |
| D415 | B-5 |
| D416 | B-4 |
| D417 | B-3 |
| D418 | B-2 |
| D419 | C-5 |
| D420 | C-4 |
| D421 | C-3 |
| D422 | C-2 |
| D423 | D-4 |
| D424 | D-4 |
| D425 | D-3 |
| D426 | D-2 |
| D427 | E-5 |
| D428 | E-4 |
| D429 | E-3 |
| D430 | E-2 |
| D431 | A-2 |
| D432 | A-5 |
| D433 | A-5 |
| | |
| IC401 | E-6 |
| IC402 | E-5 |
| IC403 | E-3 |
| IC404 | E-2 |
| IC405 | E-1 |

ed on the componet side.
ed on the printed side.

enables seeing.

CR-19 BOARD

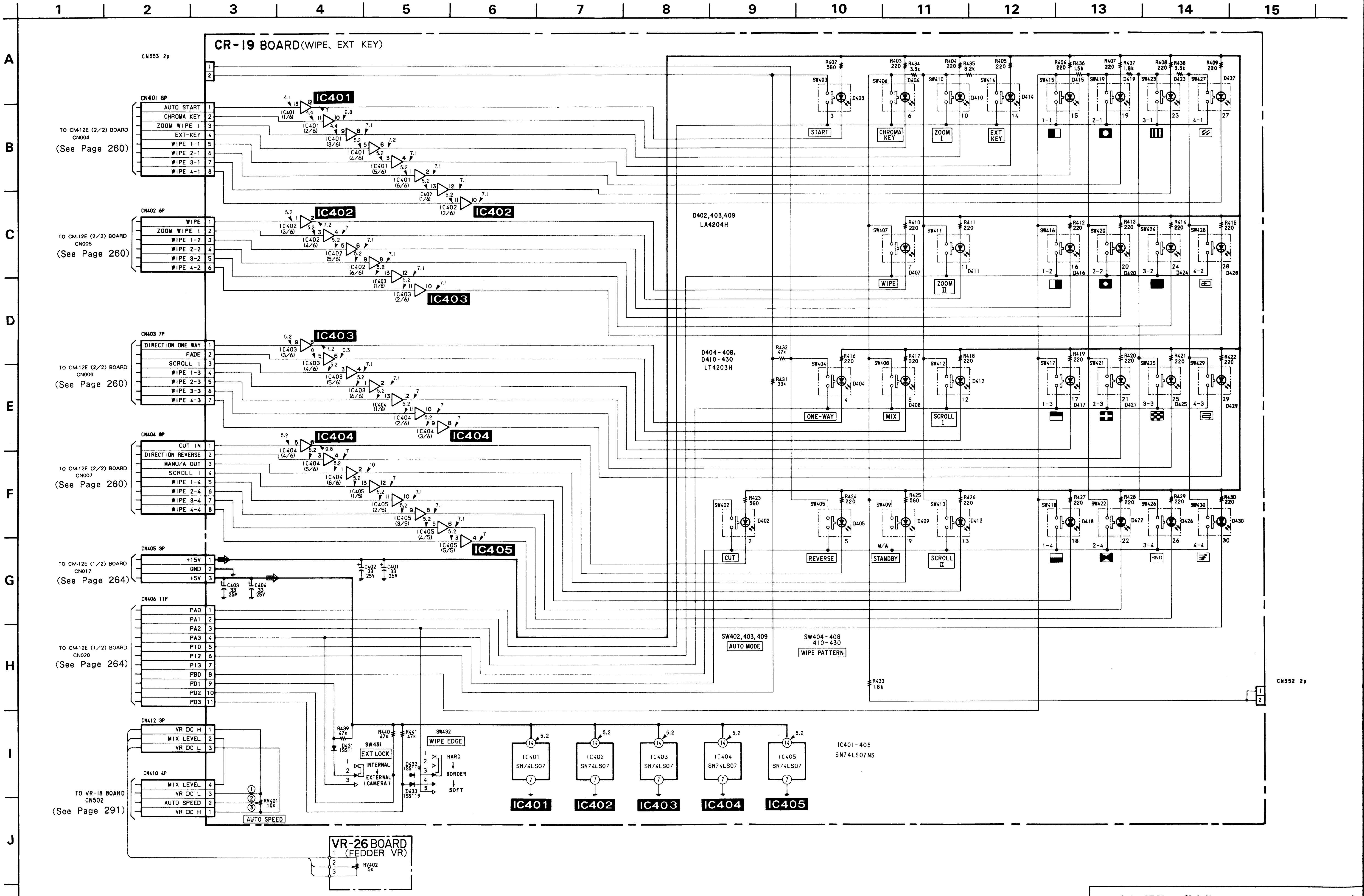
VR-26 BOARD


A
B
C
D
E
F
1
2
3
4
5
6
7
8
D431
R439
R441
R440
R422
R438
R437
R436
CN406
D433
D432
SW432
WIPE EDGE
CN553
CN410
CN412
R431
R432
R433
R434
R435
RV402
(FADER VR)
SW410
ZOOM I
D410
SW418
D418
SW417
D417
SW416
D416
SW415
D415
SW407
WIPE
D407
R416
R409
SW411
ZOOM II
D411
SW422
D422
SW421
D421
SW420
D420
SW419
D419
SW408
MIX
D408
RV401
SW412
SCROLL I
D412
SW426
RND
D426
SW425
D425
SW424
D424
SW423
D423
SW406
CHROMA KEY
D406
SW413
SCROLL II
D413
SW430
D430
SW429
D429
SW428
D428
SW427
D427
SW414
EXT KEY
D414
SW405
REVERSE
D405
SW404
ONE-WAY
D404
SW403
START
D403
SW409
STAND BY
D409
SW402
CUT
D402
IC405
IC404
IC403
IC402
IC401
C406
C405
R424
R416
R402
C404
C403
C402
C401
R423
CN404
CN403
CN402
CN401
CN405

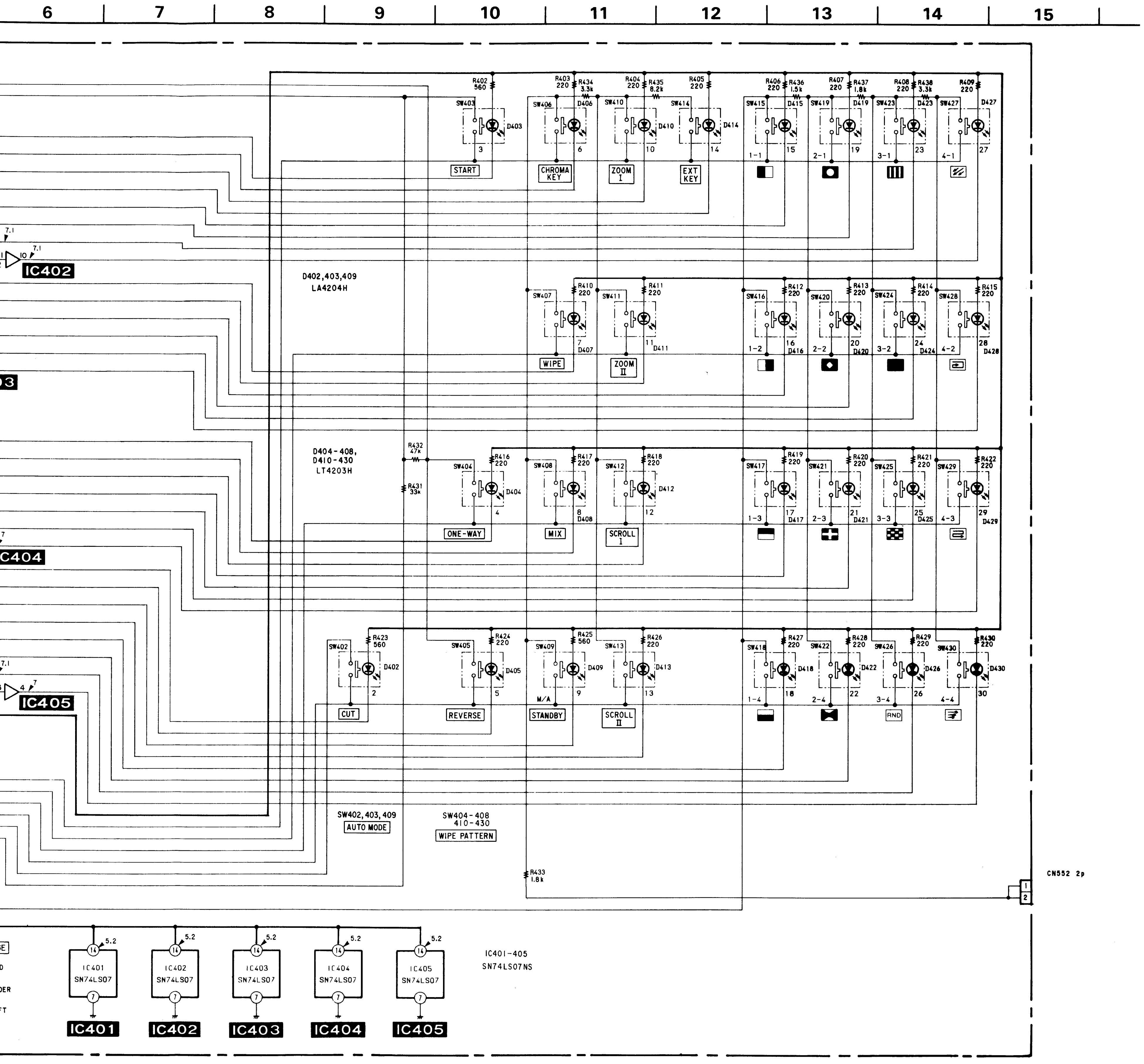
FADER／WIPE FADER／WIPE

## VR-26 (FADER VR), CR-19 (WIPE EXT KEY) SCHEMATIC DIAGRAMS

—Ref. No. VR-26 BOARD : 1,000 Series, CR-19 BOARD 7,000 Series—



CR-19 BOARD (WIPE、EXT KEY)
CN553 2p
CN401 8P
AUTO START
CHROMA KEY
ZOOM WIPE I
EXT-KEY
WIPE 1-1
WIPE 2-1
WIPE 3-1
WIPE 4-1
TO CM-12E (2/2) BOARD CN004
(See Page 260)
CN402 6P
WIPE
ZOOM WIPE I
WIPE 1-2
WIPE 2-2
WIPE 3-2
WIPE 4-2
TO CM-12E (2/2) BOARD CN005
(See Page 260)
CN403 7P
DIRECTION ONE WAY
FADE
SCROLL I
WIPE 1-3
WIPE 2-3
WIPE 3-3
WIPE 4-3
TO CM-12E (2/2) BOARD CN006
(See Page 260)
CN404 8P
CUT IN
DIRECTION REVERSE
MANU/A OUT
SCROLL I
WIPE 1-4
WIPE 2-4
WIPE 3-4
WIPE 4-4
TO CM-12E (2/2) BOARD CN007
(See Page 260)
CN405 3P
+15V
GND
+5V
TO CM-12E (1/2) BOARD CN017
(See Page 264)
C403 33 25V
C404 33 25V
C402 33 25V
C401 33 25V
CN406 11P
PA0
PA1
PA2
PA3
PI0
PI2
PI3
PB0
PD1
PD2
PD3
TO CM-12E (1/2) BOARD CN020
(See Page 264)
CN412 3P
VR DC H
MIX LEVEL
VR DC L
CN410 4P
MIX LEVEL
VR DC L
AUTO SPEED
VR DC H
TO VR-18 BOARD CN502
(See Page 291)
RV401 10k
AUTO SPEED
R439 47k
D431 1SS11
SW431
EXT LOCK
INTERNAL
EXTERNAL (CAMERA)
R440 47k
R441 47k
D432 1SS119
D433 1SS119
SW432
WIPE EDGE
HARD
BORDER
SOFT
VR-26 BOARD (FEDDER VR)
RV402 5k
IC401
IC402
IC403
IC404
IC405
IC401 SN74LS07
IC402 SN74LS07
IC403 SN74LS07
IC404 SN74LS07
IC405 SN74LS07
IC401-405 SN74LS07NS
D402,403,409 LA4204H
D404-408, D410-430 LT4203H
R432 47k
R431 33k
R433 1.8k
SW402,403,409
AUTO MODE
SW404-408 410-430
WIPE PATTERN
CN552 2p
START
CHROMA KEY
ZOOM I
EXT KEY
WIPE
ZOOM II
ONE-WAY
MIX
SCROLL I
CUT
REVERSE
M/A
STANDBY
SCROLL II
RND
1-1
2-1
3-1
4-1
1-2
2-2
3-2
4-2
1-3
2-3
3-3
4-3
1-4
2-4
3-4
4-4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
A
B
C
D
E
F
G
H
I
J


6
7
8
9
10
11
12
13
14
15
IC402
IC404
IC405
D402,403,409
LA4204H
D404-408,
D410-430
LT4203H
START
CHROMA KEY
ZOOM I
EXT KEY
WIPE
ZOOM II
ONE-WAY
MIX
SCROLL I
CUT
REVERSE
STANDBY
SCROLL II
M/A
RND
SW402, 403, 409
AUTO MODE
SW404-408
410-430
WIPE PATTERN
R433
1.8k
R432
47k
R431
33k
CN552 2p
IC401
SN74LS07
IC402
SN74LS07
IC403
SN74LS07
IC404
SN74LS07
IC405
SN74LS07
IC401-405
SN74LS07NS
5.2
7.1

When indicating parts by reference number, please include the board name.

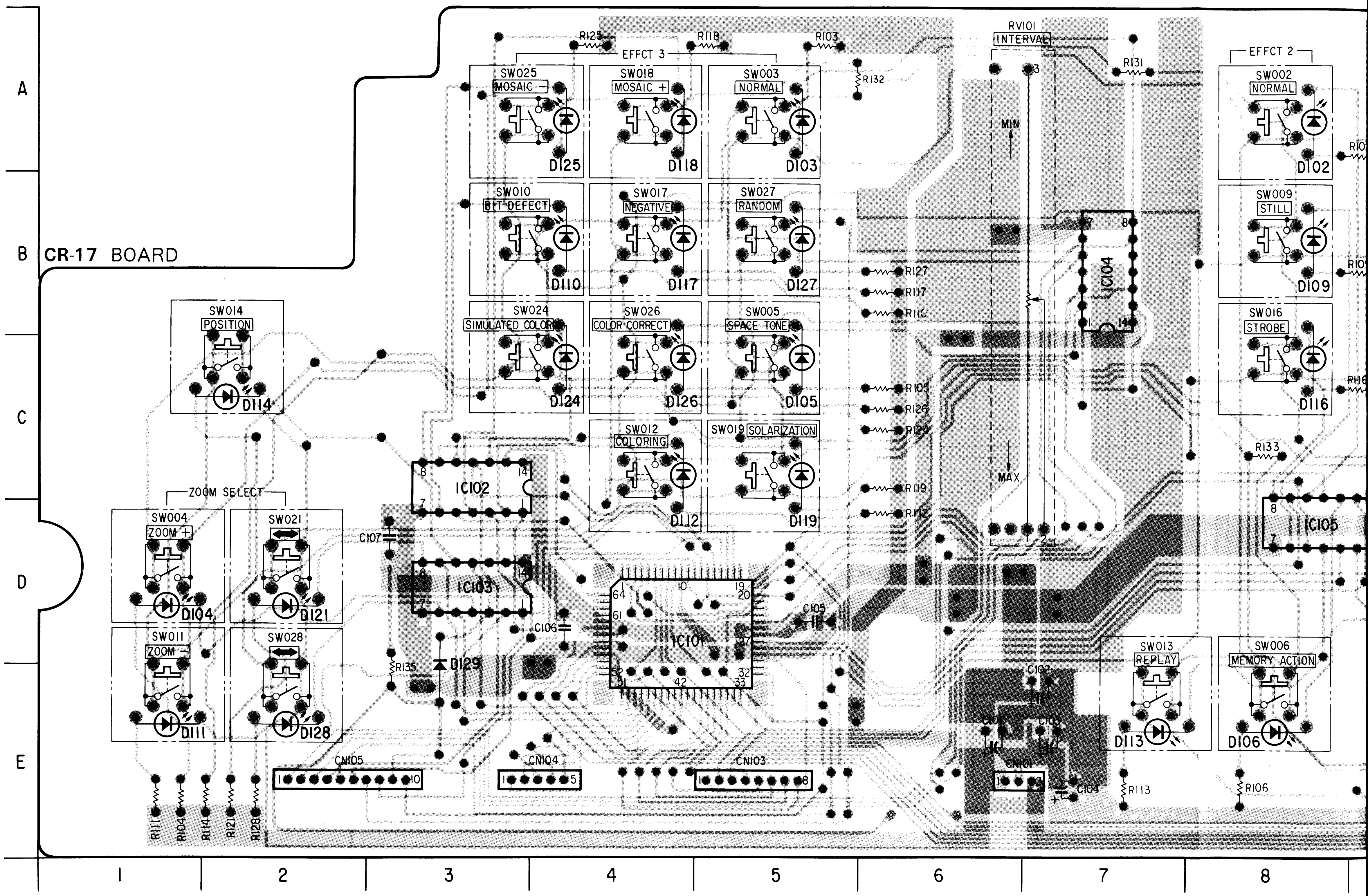
FADER／WIPE　FADER／WIPE

## CR-17 (EFFECT KEY) PRINTED WIRING BOARD

—Ref. No. CR-17 BOARD : 7,000 Series—

CR-17 BOARD

| | |
|---|---|
| D101 | A-9 |
| D102 | A-8 |
| D103 | A-5 |
| D104 | D-1 |
| D105 | C-5 |
| D106 | E-8 |
| D107 | B-12 |
| D108 | B-9 |
| D109 | B-8 |
| D110 | B-4 |
| D111 | E-1 |
| D112 | A-10 |
| D113 | E-7 |
| D114 | C-2 |
| D115 | E-9 |
| D116 | C-8 |
| D117 | B-4 |
| D118 | A-4 |
| D119 | C-5 |
| D120 | A-10 |
| D121 | D-2 |
| D122 | C-9 |
| D123 | E-12 |
| D124 | C-4 |
| D125 | A-4 |
| D126 | C-4 |
| D127 | B-5 |
| D128 | E-2 |
| D129 | D-3 |
| D130 | E-6 |
| | |
| IC101 | D-4 |
| IC102 | C-3 |
| IC103 | D-3 |
| IC104 | B-7 |
| IC105 | D-8 |
| IC106 | D-9 |


A
B
C
D
E
1
2
3
4
5
6
7
8
CR-17 BOARD
EFFCT 3
EFFCT 2
R125
R118
R103
R132
RV101
INTERVAL
R131
SW025
MOSAIC −
D125
SW018
MOSAIC +
D118
SW003
NORMAL
D103
SW002
NORMAL
D102
MIN
MAX
SW010
BIT DEFECT
D110
SW017
NEGATIVE
D117
SW027
RANDOM
D127
SW009
STILL
D109
IC104
R127
R117
R110
SW024
SIMULATED COLOR
D124
SW026
COLOR CORRECT
D126
SW005
SPACE TONE
D105
SW016
STROBE
D116
SW014
POSITION
D114
R105
R126
R124
SW012
COLORING
D112
SW019
SOLARIZATION
D119
R119
R112
R133
IC102
IC105
ZOOM SELECT
SW004
ZOOM +
D104
SW021
D121
C107
IC103
IC101
C105
C106
R135
D129
C102
C101
C103
SW011
ZOOM −
D111
SW028
D128
SW013
REPLAY
D113
SW006
MEMORY ACTION
D106
CN105
CN104
CN103
CN101
C104
R113
R106
R111
R104
R114
R121
R128

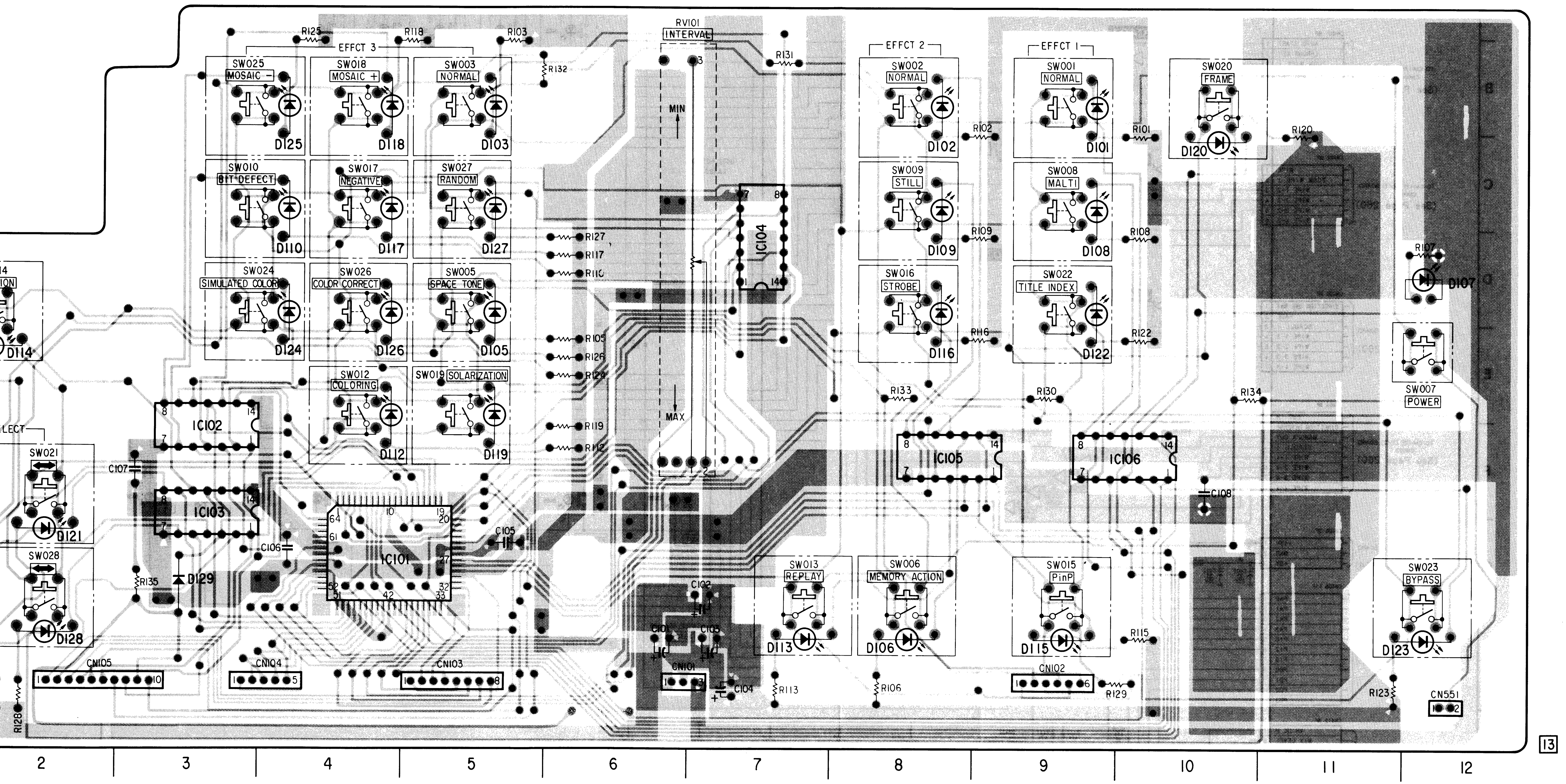
For printed wiring boards :

- ○— : indicates a lead wire mounted on the componet side.
- ●— : indicates a lead wire mounted on the printed side.
- ● : Through hole.
- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

When indicating parts by reference number, please include the board name.

**INTED WIRING BOARD**

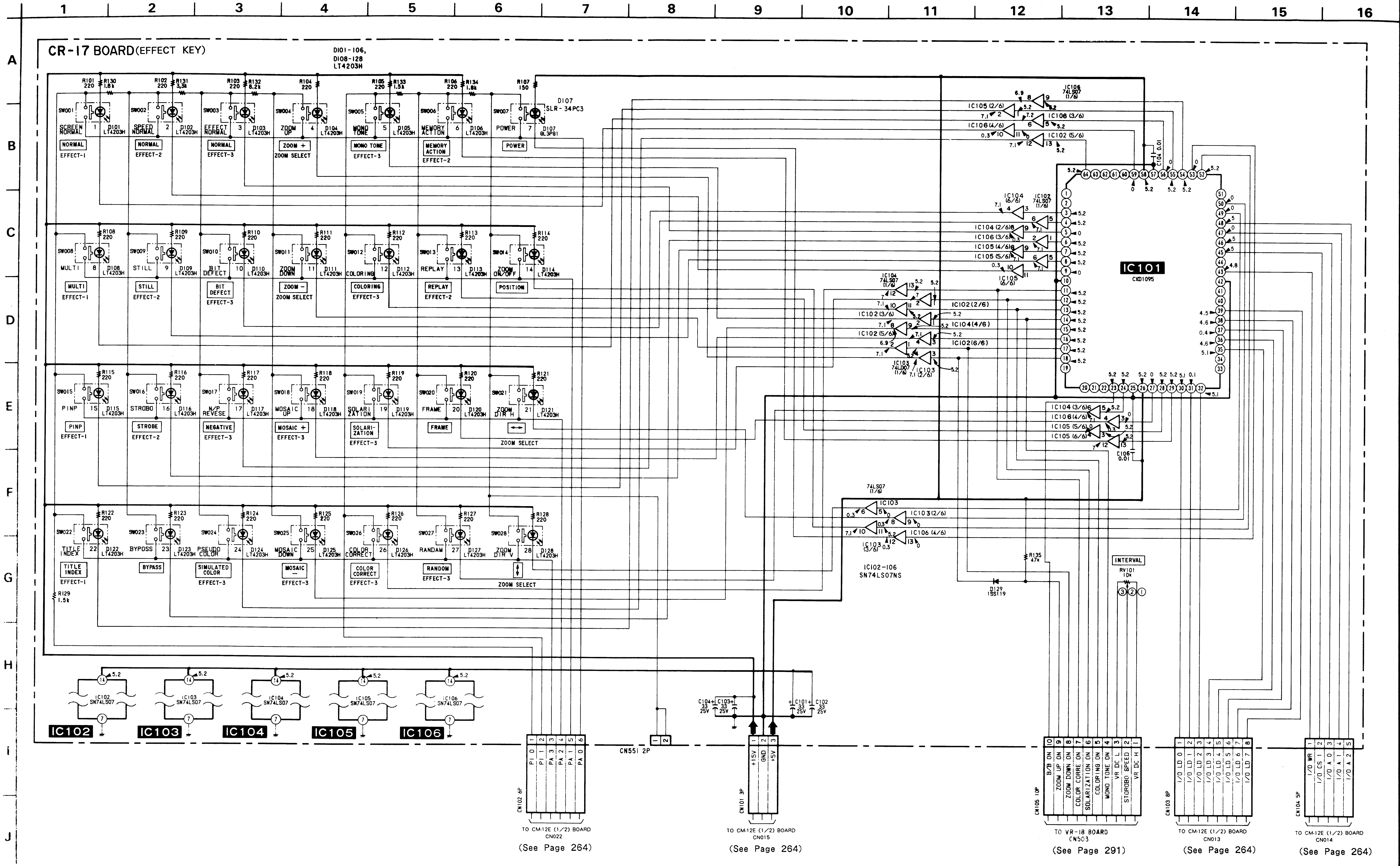
,000 Series—


EFFCT 3
SW025 MOSAIC −
SW018 MOSAIC +
SW003 NORMAL
SW010 BIT DEFECT
SW017 NEGATIVE
SW027 RANDOM
SW024 SIMULATED COLOR
SW026 COLOR CORRECT
SW005 SPACE TONE
SW012 COLORING
SW019 SOLARIZATION
D125
D118
D103
D110
D117
D127
D124
D126
D105
D112
D119
R125
R118
R103
R132
R127
R117
R110
R105
R126
R124
R119
R112
RV101 INTERVAL
MIN
MAX
IC104
R131
EFFCT 2
SW002 NORMAL
SW009 STILL
SW016 STROBE
D102
D109
D116
R102
R109
R116
EFFCT 1
SW001 NORMAL
SW008 MALTI
SW022 TITLE INDEX
D101
D108
D122
R101
R108
R122
SW020 FRAME
D120
R120
R107
D107
SW007 POWER
R133
R130
R134
IC105
IC106
C108
IC102
IC103
IC101
C107
C106
C105
R135
D129
SW021
D121
SW028
D128
D114
SW013 REPLAY
D113
SW006 MEMORY ACTION
D106
SW015 PinP
D115
R115
SW023 BYPASS
D123
C102
C101
C103
C104
CN105
CN104
CN103
CN101
CN102
CN551
R128
R113
R106
R129
R123
LECT
13
2
3
4
5
6
7
8
9
10
11
12

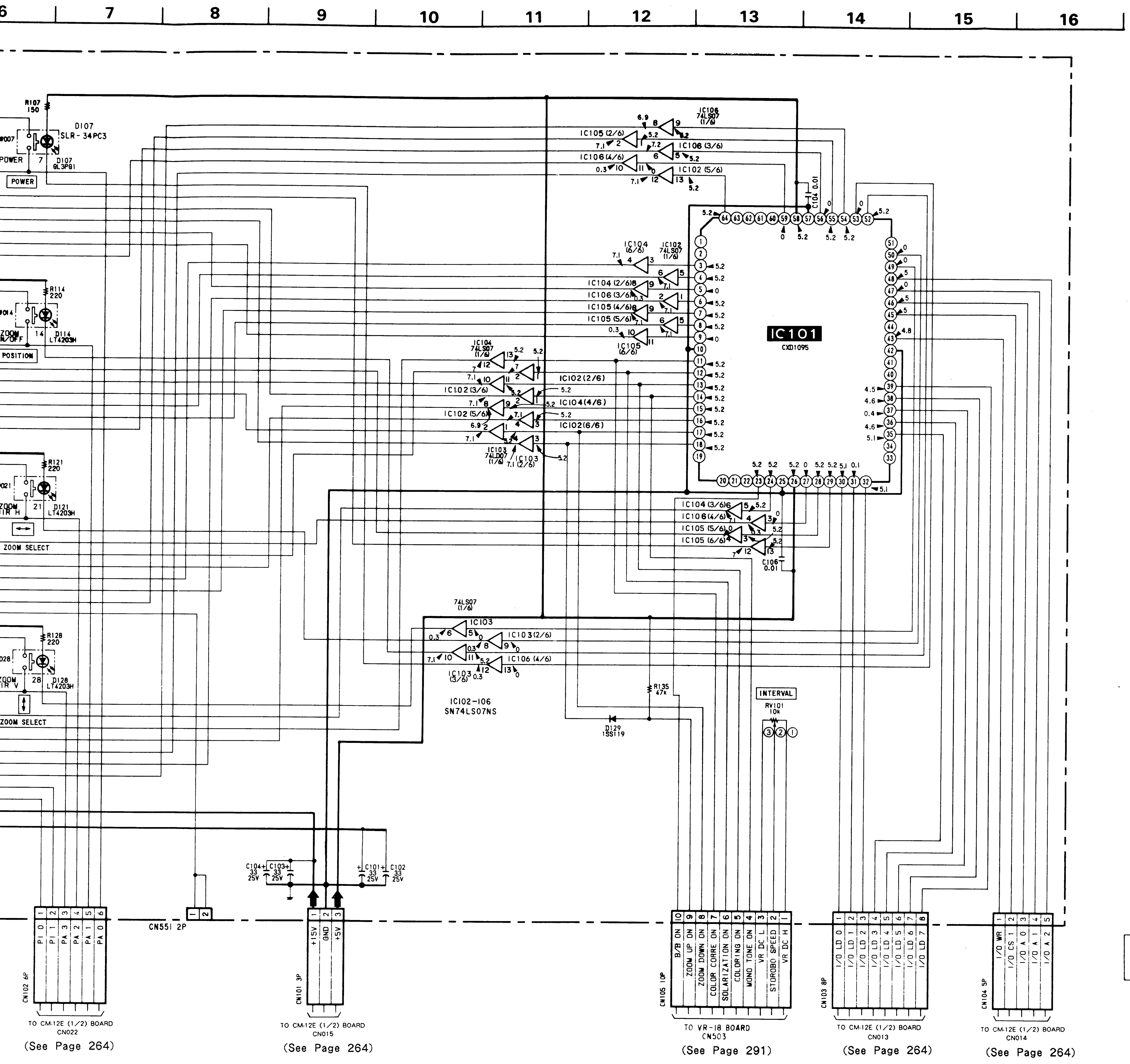
EFFECT KEY    EFFECT KEY

## CR-17 (EFFECT KEY) SCHEMATIC DIAGRAM

—Ref. No. CR-17 BOARD : 7,000 Series—



CR-17 BOARD (EFFECT KEY)
D101-106, D108-128 LT4203H
D107 SLR-34PC3
SW001 SCREEN NORMAL
NORMAL EFFECT-1
SW002 SPEED NORMAL
NORMAL EFFECT-2
SW003 EFFECT NORMAL
NORMAL EFFECT-3
SW004 ZOOM UP
ZOOM + ZOOM SELECT
SW005 MONO TONE
MONO TONE EFFECT-3
SW006 MEMORY ACTION
MEMORY ACTION EFFECT-2
SW007 POWER
POWER
SW008 MULTI
MULTI EFFECT-1
SW009 STILL
STILL EFFECT-2
SW010 BIT DEFECT
BIT DEFECT EFFECT-3
SW011 ZOOM DOWN
ZOOM − ZOOM SELECT
SW012 COLORING
COLORING EFFECT-3
SW013 REPLAY
REPLAY EFFECT-2
SW014 ZOOM ON/OFF
POSITION
SW015 PINP
PINP EFFECT-1
SW016 STROBO
STROBE EFFECT-2
SW017 N/P REVESE
NEGATIVE EFFECT-3
SW018 MOSAIC UP
MOSAIC + EFFECT-3
SW019 SOLARIZATION
SOLARIZATION EFFECT-3
SW020 FRAME
FRAME
SW021 ZOOM DIR H
ZOOM SELECT
SW022 TITLE INDEX
TITLE INDEX EFFECT-1
SW023 BYPOSS
BYPASS
SW024 PSEUDO COLOR
SIMULATED COLOR EFFECT-3
SW025 MOSAIC DOWN
MOSAIC − EFFECT-3
SW026 COLOR CORRECT
COLOR CORRECT EFFECT-3
SW027 RANDAM
RANDOM EFFECT-3
SW028 ZOOM DIR V
ZOOM SELECT
R129 1.5k
IC101 CXD1095
IC102-106 SN74LS07NS
D129 1SS119
R135 47k
INTERVAL RV101 10k
C106 0.01
IC102 SN74LS07
IC103 SN74LS07
IC104 SN74LS07
IC105 SN74LS07
IC106 SN74LS07
C104 33 25V
C103 33 25V
C101 33 25V
C102 33 25V
CN102 6P
PI 0
PI 1
PA 3
PA 2
PA 1
PA 0
TO CM-12E (1/2) BOARD CN022
(See Page 264)
CN551 2P
CN101 3P
+15V
GND
+5V
TO CM-12E (1/2) BOARD CN015
(See Page 264)
CN105 10P
B/B ON
ZOOM UP ON
ZOOM DOWN ON
COLOR CORRE ON
SOLARIZATION ON
COLORING ON
MONO TONE ON
VR DC L
STOROBO SPEED
VR DC H
TO VR-18 BOARD CN503
(See Page 291)
CN103 8P
I/O LD 0
I/O LD 1
I/O LD 2
I/O LD 3
I/O LD 4
I/O LD 5
I/O LD 6
I/O LD 7
TO CM-12E (1/2) BOARD CN013
(See Page 264)
CN104 5P
I/O WR
I/O CS 1
I/O A 0
I/O A 1
I/O A 2
TO CM-12E (1/2) BOARD CN014
(See Page 264)


6
7
8
9
10
11
12
13
14
15
16
R107
150
D107
SLR-34PC3
D107
6L3P81
POWER
R114
220
D114
LT4203H
ZOOM
POSITION
R121
220
D121
LT4203H
ZOOM SELECT
R128
220
D128
LT4203H
ZOOM SELECT
IC101
CXD1095
IC106
74LS07
(1/6)
IC105 (2/6)
IC106 (3/6)
IC106 (4/6)
IC102 (5/6)
IC104
(6/6)
IC102
74LS07
(1/6)
IC104 (2/6)
IC106 (3/6)
IC105 (4/6)
IC105 (5/6)
IC105
(6/6)
IC104
74LS07
(1/6)
IC102 (2/6)
IC102 (3/6)
IC104 (4/6)
IC102 (5/6)
IC102 (6/6)
IC103
74LS07
(1/6)
IC103
(2/6)
IC104 (3/6)
IC106 (4/6)
IC105 (5/6)
IC105 (6/6)
C104 0.01
C106
0.01
74LS07
(1/6)
IC103
IC103 (2/6)
IC106 (4/6)
IC103
(3/6)
IC102-106
SN74LS07NS
R135
47k
D129
1SS119
INTERVAL
RV101
10k
C104 33 25V
C103 33 25V
C101 33 25V
C102 33 25V
CN551 2P
CN102 6P
PI 0
PI 1
PA 3
PA 2
PA 1
PA 0
TO CM-12E (1/2) BOARD
CN022
(See Page 264)
CN101 3P
+15V
GND
+5V
TO CM-12E (1/2) BOARD
CN015
(See Page 264)
CN105 10P
B/B ON
ZOOM UP ON
ZOOM DOWN ON
COLOR CORRE ON
SOLARIZATION ON
COLORING ON
MONO TONE ON
VR DC L
STOROBO SPEED
VR DC H
TO VR-18 BOARD
CN503
(See Page 291)
CN103 8P
I/O LD 0
I/O LD 1
I/O LD 2
I/O LD 3
I/O LD 4
I/O LD 5
I/O LD 6
I/O LD 7
TO CM-12E (1/2) BOARD
CN013
(See Page 264)
CN104 5P
I/O WR
I/O CS 1
I/O A 0
I/O A 1
I/O A 2
TO CM-12E (1/2) BOARD
CN014
(See Page 264)

When indicating parts by reference number, please include the board name.

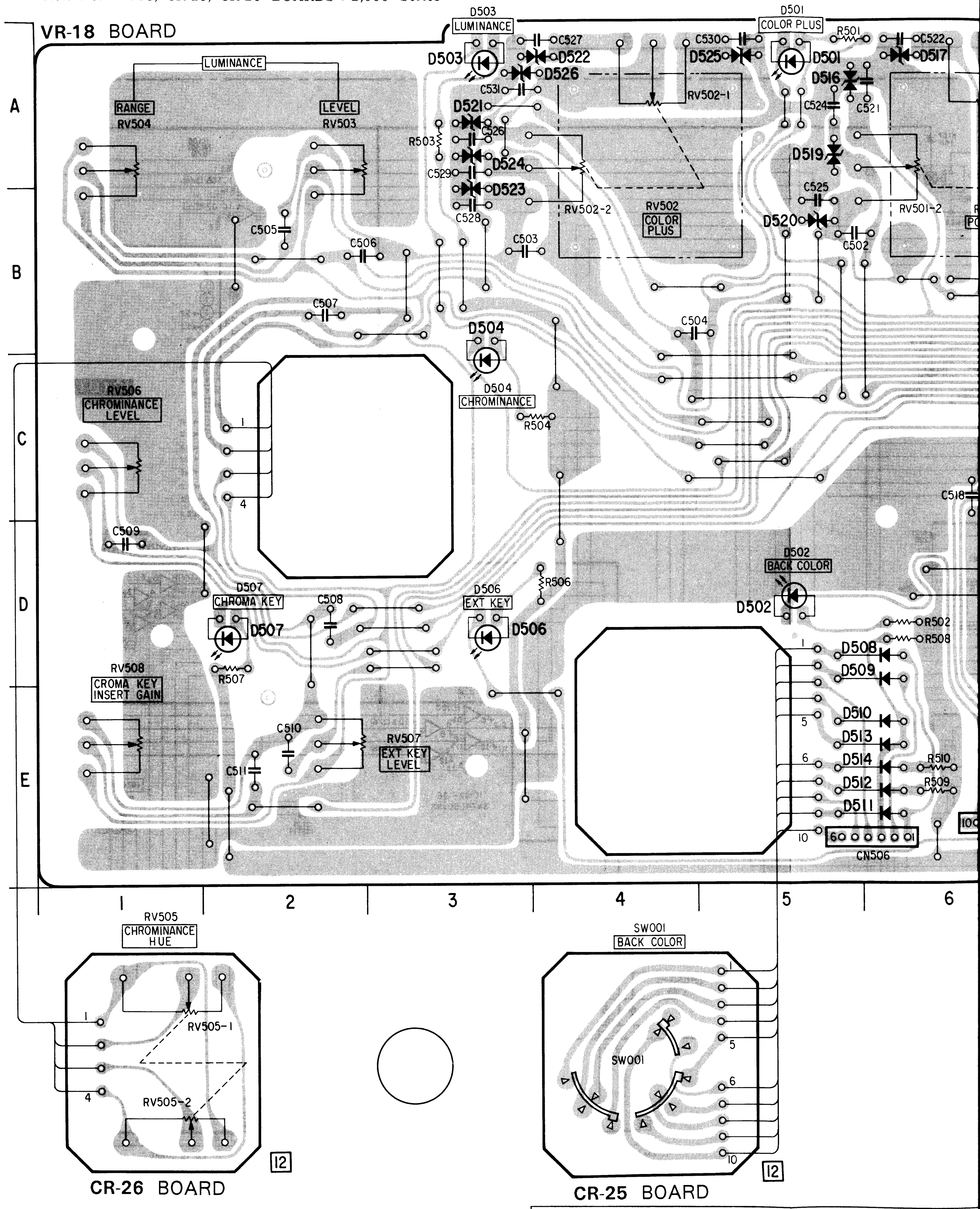
# EFFECT KEY EFFECT KEY

VR-18 BOARD

| | |
|---|---|
| D501 | A-5 |
| D502 | D-5 |
| D503 | A-3 |
| D504 | B-3 |
| D505 | A-7 |
| D506 | D-3 |
| D507 | D-2 |
| D508 | D-5 |
| D509 | D-5 |
| D510 | E-5 |
| D511 | E-5 |
| D512 | E-5 |
| D513 | E-5 |
| D514 | E-5 |
| D515 | A-7 |
| D516 | A-5 |
| D517 | A-6 |
| D518 | A-7 |
| D519 | A-5 |
| D520 | B-5 |
| D521 | A-3 |
| D522 | A-3 |
| D523 | A-3 |
| D524 | A-3 |
| D525 | A-5 |
| D526 | A-4 |
| | |
| IC501 | D-8 |
| IC502 | B-8 |
| IC503 | C-7 |
| IC504 | D-7 |

## VR-18 (VOLUME CONTROL), CR-25 (BACK COLOR), CR-26 (CHROMINANCE HUE) PRINTED WIRING BOARDS

—Ref. No. VR-18, CR-25, CR-26 BOARDS : 2,000 Series—


VR-18 BOARD
A
B
C
D
E
1
2
3
4
5
6
LUMINANCE
RANGE
RV504
LEVEL
RV503
D503
LUMINANCE
D501
COLOR PLUS
C527
D522
D526
C531
D521
C526
R503
D524
C529
D523
C528
C503
C530
D525
RV502-1
RV502-2
RV502
COLOR PLUS
R501
C522
D517
D516
C521
C524
D519
C525
D520
C502
RV501-2
C505
C506
C507
C504
D504
CHROMINANCE
R504
RV506
CHROMINANCE LEVEL
C509
D507
CHROMA KEY
C508
R507
D506
EXT KEY
R506
D502
BACK COLOR
R502
R508
D508
D509
D510
D513
D514
D512
D511
R510
R509
CN506
C518
RV508
CROMA KEY INSERT GAIN
C510
C511
RV507
EXT KEY LEVEL
RV505
CHROMINANCE HUE
RV505-1
RV505-2
CR-26 BOARD
12
SW001
BACK COLOR
CR-25 BOARD
10

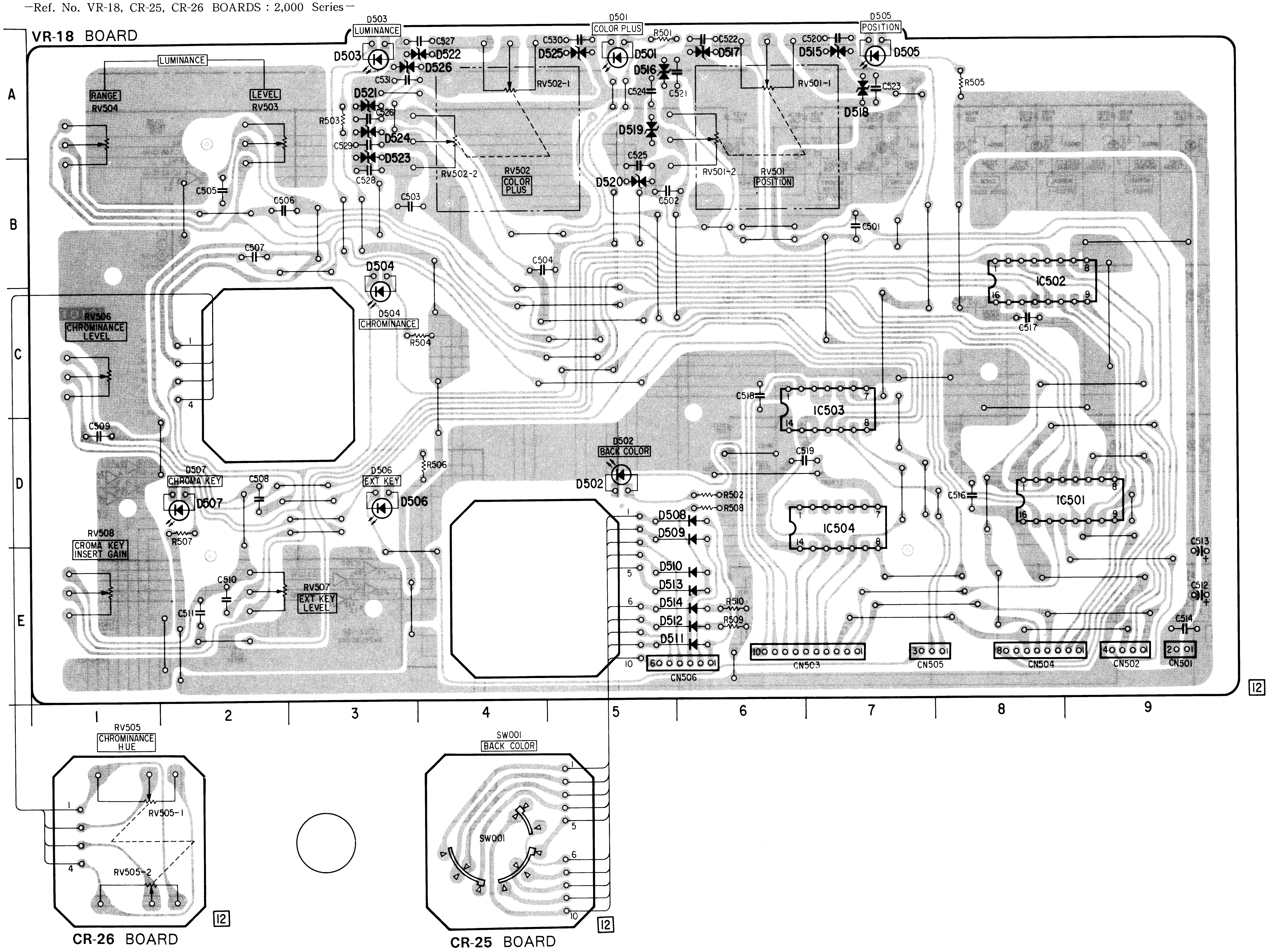
| | |
|---|---|
| VOLUME CONT | VOLUME CO |

## VR-18 (VOLUME CONTROL), CR-25 (BACK COLOR), CR-26 (CHROMINANCE HUE) PRINTED WIRING BOARDS

—Ref. No. VR-18, CR-25, CR-26 BOARDS : 2,000 Series—

VR-18 BOARD

| | |
|---|---|
| D501 | A-5 |
| D502 | D-5 |
| D503 | A-3 |
| D504 | B-3 |
| D505 | A-7 |
| D506 | D-3 |
| D507 | D-2 |
| D508 | D-5 |
| D509 | D-5 |
| D510 | E-5 |
| D511 | E-5 |
| D512 | E-5 |
| D513 | E-5 |
| D514 | E-5 |
| D515 | A-7 |
| D516 | A-5 |
| D517 | A-6 |
| D518 | A-7 |
| D519 | A-5 |
| D520 | B-5 |
| D521 | A-3 |
| D522 | A-3 |
| D523 | A-3 |
| D524 | A-3 |
| D525 | A-5 |
| D526 | A-4 |
| IC501 | D-8 |
| IC502 | B-8 |
| IC503 | C-7 |
| IC504 | D-7 |

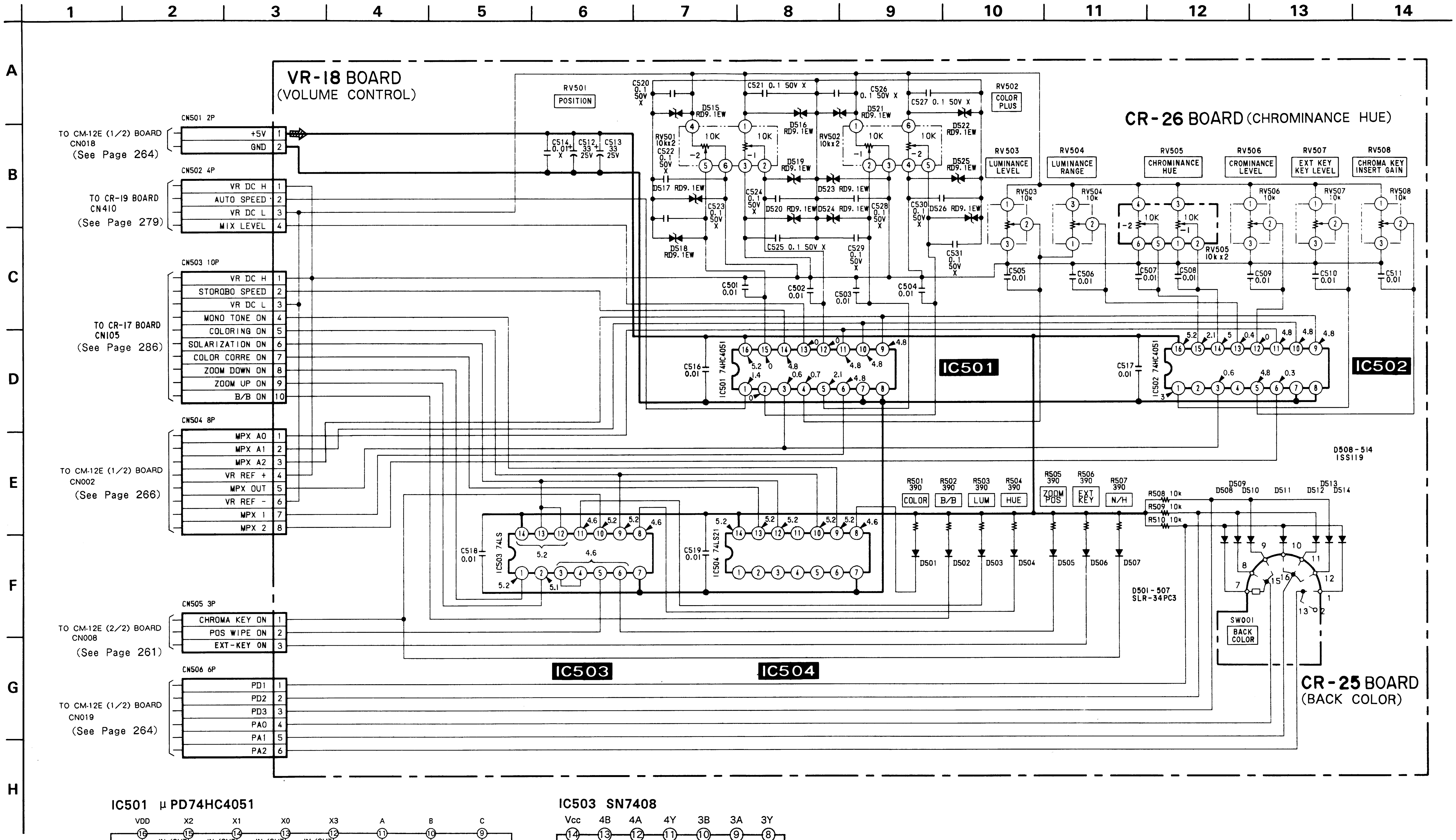


VR-18 BOARD
A
B
C
D
E
1
2
3
4
5
6
7
8
9
D503 LUMINANCE
D501 COLOR PLUS
D505 POSITION
LUMINANCE
RANGE RV504
LEVEL RV503
D503
D522
D526
D521
D524
D523
D525
D501
D516
D519
D520
D517
D515
D505
D518
R501
R503
R505
C527
C530
C531
C526
C529
C528
C522
C520
C523
C524
C521
C525
C502
C503
C505
C506
C507
C504
C501
RV502-1
RV502-2
RV502 COLOR PLUS
RV501-1
RV501-2
RV501 POSITION
IC502
C517
D504
D504 CHROMINANCE
R504
RV506 CHROMINANCE LEVEL
C509
IC503
C518
C519
D502 BACK COLOR
D502
R506
D507 CHROMA KEY
D507
C508
D506 EXT KEY
D506
R507
RV508 CROMA KEY INSERT GAIN
C510
C511
RV507 EXT KEY LEVEL
R502
R508
D508
D509
D510
D513
D514
D512
D511
R510
R509
IC504
IC501
C516
C513
C512
C514
CN506
CN503
CN505
CN504
CN502
CN501
12
RV505 CHROMINANCE HUE
RV505-1
RV505-2
CR-26 BOARD
SW001 BACK COLOR
SW001
CR-25 BOARD

VOLUME CONT VOLUME CONT

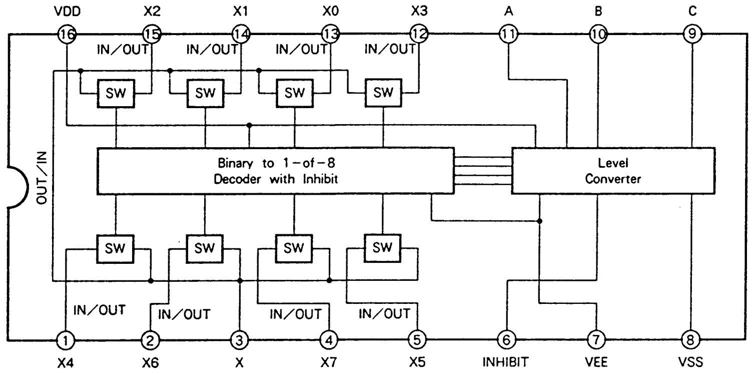
## VR-18 (VOLUME CONTROL), CR-25 (BACK COLOR), CR-26 (CHROMINANCE HUE) SCHEMATIC DIAGRAMS

–Ref. No. VR-18, CR-25, CR-26 BOARDS : 2,000 Series–



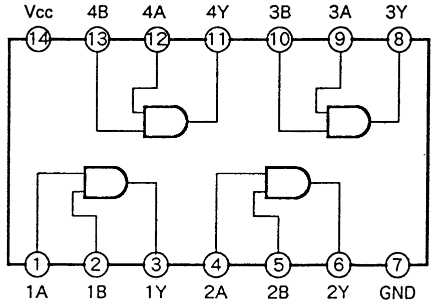
1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
VR-18 BOARD
(VOLUME CONTROL)
CR-26 BOARD (CHROMINANCE HUE)
CR-25 BOARD
(BACK COLOR)
TO CM-12E (1/2) BOARD CN018 (See Page 264)
CN501 2P
+5V
GND
TO CR-19 BOARD CN410 (See Page 279)
CN502 4P
VR DC H
AUTO SPEED
VR DC L
MIX LEVEL
TO CR-17 BOARD CN105 (See Page 286)
CN503 10P
VR DC H
STOROBO SPEED
VR DC L
MONO TONE ON
COLORING ON
SOLARIZATION ON
COLOR CORRE ON
ZOOM DOWN ON
ZOOM UP ON
B/B ON
TO CM-12E (1/2) BOARD CN002 (See Page 266)
CN504 8P
MPX A0
MPX A1
MPX A2
VR REF +
MPX OUT
VR REF -
MPX 1
MPX 2
TO CM-12E (2/2) BOARD CN008 (See Page 261)
CN505 3P
CHROMA KEY ON
POS WIPE ON
EXT-KEY ON
TO CM-12E (1/2) BOARD CN019 (See Page 264)
CN506 6P
PD1
PD2
PD3
PA0
PA1
PA2
RV501 POSITION
RV502 COLOR PLUS
RV503 LUMINANCE LEVEL
RV504 LUMINANCE RANGE
RV505 CHROMINANCE HUE
RV506 CROMINANCE LEVEL
RV507 EXT KEY KEY LEVEL
RV508 CHROMA KEY INSERT GAIN
IC501
IC502
IC503
IC504
IC501 74HC4051
IC502 74HC4051
IC503 74LS
IC504 74LS21
R501 390 COLOR
R502 390 B/B
R503 390 LUM
R504 390 HUE
R505 390 ZOOM POS
R506 390 EXT KEY
R507 390 N/H
R508 10k
R509 10k
R510 10k
D501
D502
D503
D504
D505
D506
D507
D501 - 507 SLR-34PC3
D508 - 514 1SS119
SW001 BACK COLOR

### IC501 μPD74HC4051



VDD
X2
X1
X0
X3
A
B
C
IN/OUT
SW
Binary to 1-of-8 Decoder with Inhibit
Level Converter
OUT/IN
X4
X6
X
X7
X5
INHIBIT
VEE
VSS

### IC503 SN7408

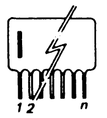


Vcc
4B
4A
4Y
3B
3A
3Y
1A
1B
1Y
2A
2B
2Y
GND

When indicating parts by reference number, please include the board name.

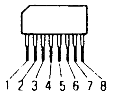
## 5-5. SEMICONDUCTORS

BX-388
BX-389

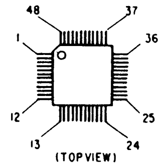


(Marking side view)

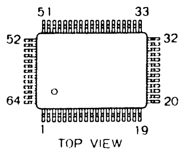
CX23065A



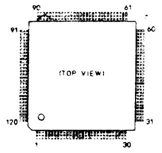
CXA1208Q
CXD1229Q


48
37
1
36
12
25
13
24
(TOP VIEW)

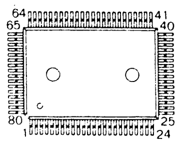
CXD1095Q
M50541FP
µPD75104G-
SAX21475


51
33
52
32
64
20
1
19
TOP VIEW

CXD1226Q
CXD1228Q

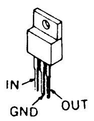


CXD1227Q
CXD2105Q
MB620461

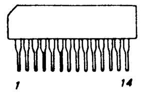

64
41
65
40
80
25
1
24

MARKING SIDE VIEW

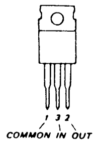
M578M05
M5F78M05
M5F7812
µPC2405HF



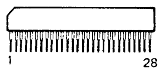
M51131L



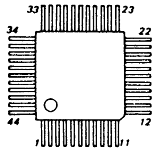
M5F7905
M5F7912
NJM7905FA
RC79M05FA


1 3 2
COMMON IN OUT

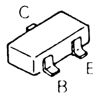
M5M4C500L-10K-K



MSM72H017FS


33
23
34
22
44
12
1
11

2SA1162
2SA1464-Y13
2SC1623
2SC3735-L-B35



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2SC2785-HFE
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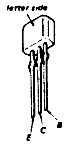
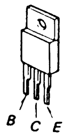
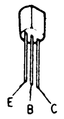
BA1A3Q
BN1L3M


letter side
E C B

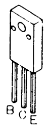
2SB1094-LK



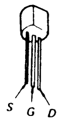
2SC2901



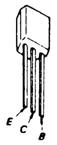
2SD1788



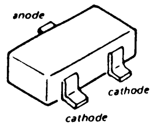
2SK105A-10



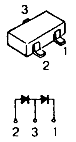
DTA114ES
DTC114ES
DTC143TS



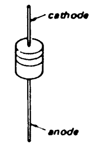
1S2836


anode
cathode
cathode

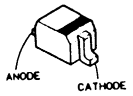
1SS226



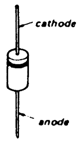
1SS119
RD24ES-B


cathode
anode

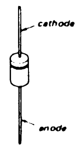
1T33C-01


ANODE
CATHODE

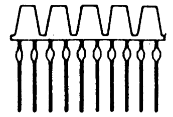
10E2


cathode
anode

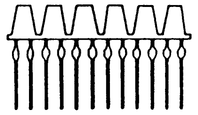
11EQS10


cathode
anode

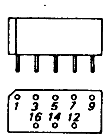
GL-105R5



GL-106R5

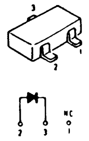


MB74LS07

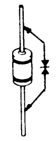

1 3 5 7 9
16 14 12

(Bottom View)

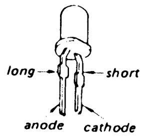
RD3.9M-B2



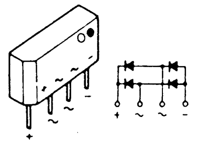
RD9.1E-W



SEL2210R
SLR-34PC3


long
short
anode
cathode

S1VB40



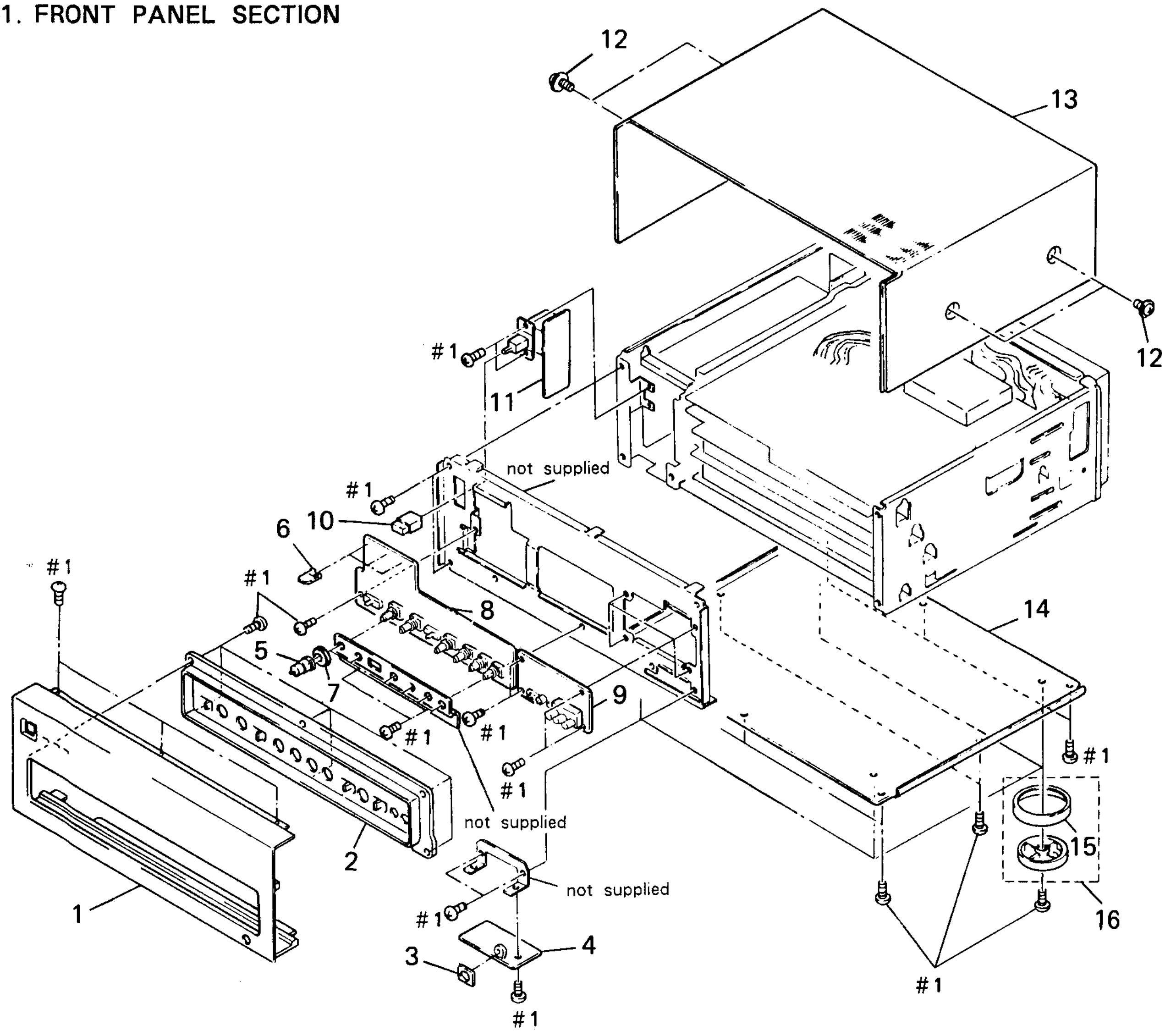
## SECTION 6
## EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Hardware (# mark) list is given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

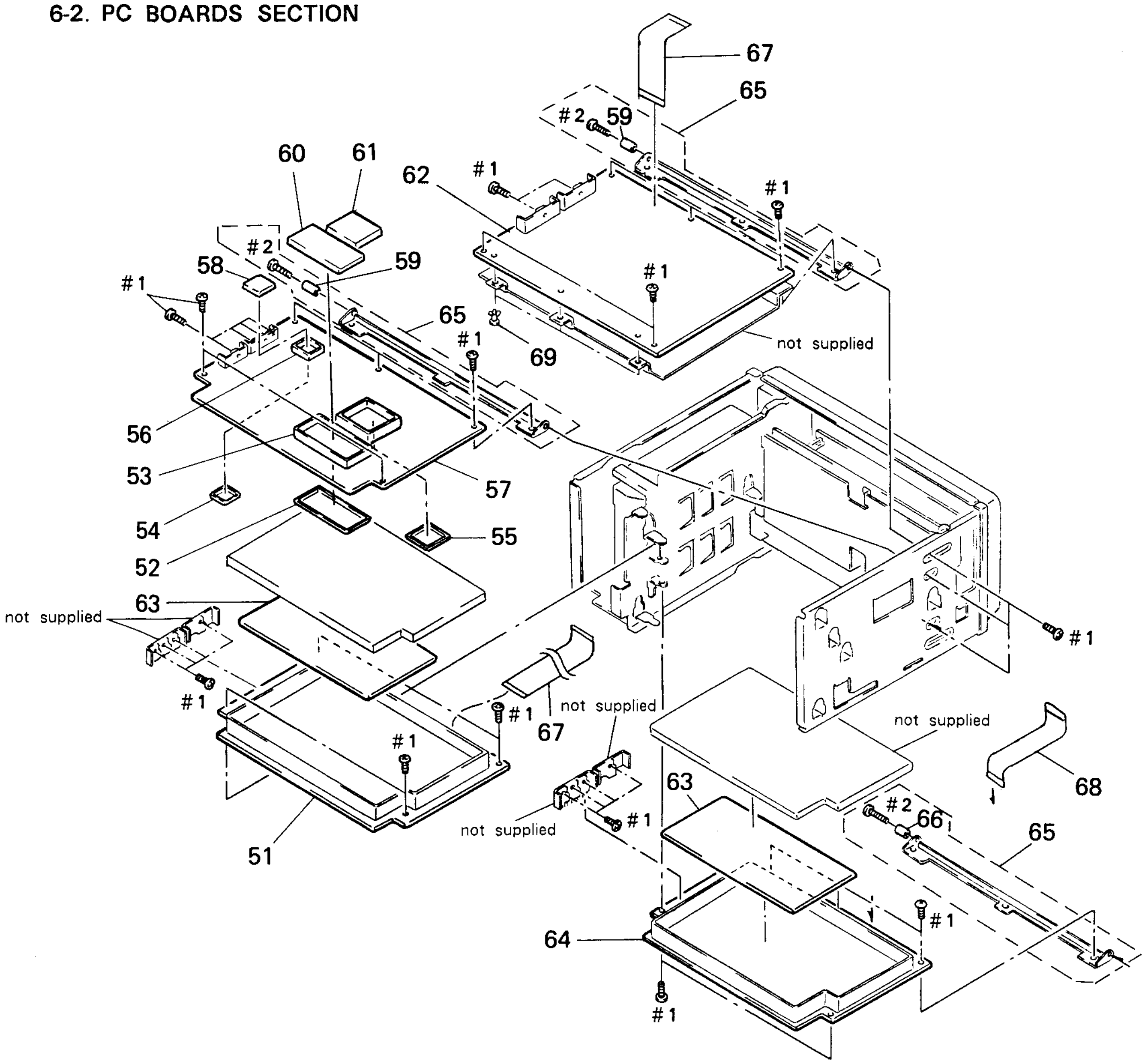
### 6-1. FRONT PANEL SECTION



| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 1 | X-3749-048-1 | PANEL ASSY, FRONT | |
| 2 | X-3749-047-1 | PLATE ASSY, ORNAMENTAL | |
| 3 | 2-131-229-01 | PLATE, BLIND, CONNECTOR | |
| 4 | * 1-637-726-12 | TS-121 BOARD | |
| 5 | X-2131-202-1 | KNOB (S) ASSY, VOL | |
| 6 | * 2-118-219-01 | HOLDER (S), LED | |
| 7 | 2-118-268-01 | NUT (M9), HEXAGON | |
| 8 | * 1-637-727-11 | TS-122 BOARD | |

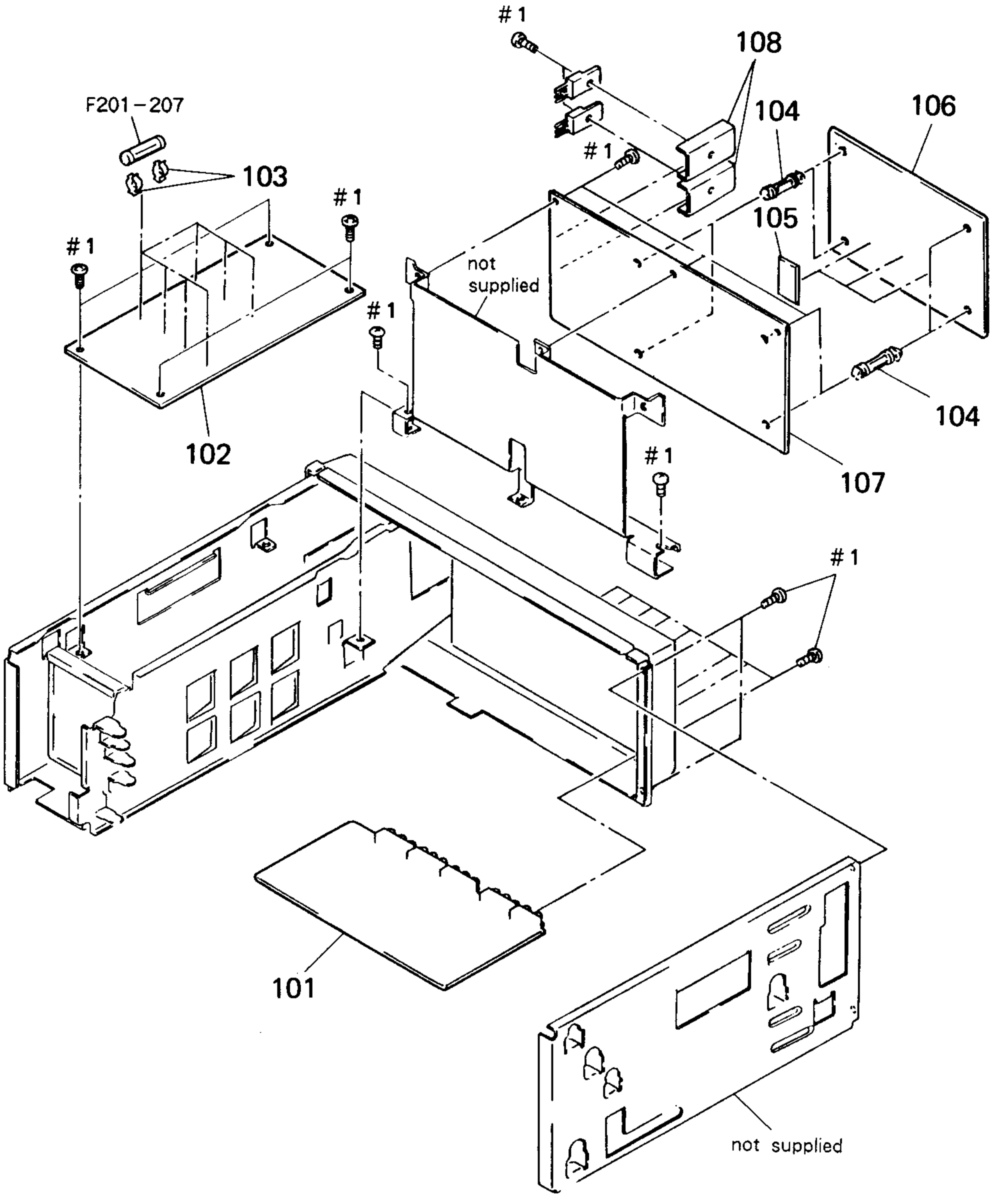
| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 9 | * 1-637-728-11 | TS-123 BOARD | |
| 10 | 2-131-274-01 | KNOB, POWER | |
| 11 | * 1-637-734-11 | AC-83 BOARD | |
| 12 | 4-847-802-00 | SCREW, CASE | |
| 13 | X-2131-208-2 | CASE ASSY, UPPER | |
| 14 | * 2-131-222-01 | PLATE, BOTTOM | |
| 15 | X-3720-394-1 | COVER, FOOT | |
| 16 | X-3720-334-1 | FOOT ASSY | |

## 6-2. PC BOARDS SECTION


67
65
#2
59
60
61
62
#1
#1
#2
58
59
#1
65
#1
#1
69
not supplied
56
53
57
54
55
52
63
not supplied
#1
#1
not supplied
67
#1
51
#1
not supplied
not supplied
68
63
#1
not supplied
#2
66
65
64
#1
#1

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 51 | * A-7052-541-A | DP-40A BOARD, COMPLETE | |
| 52 | * 3-681-182-00 | LID, BOTTOM, SHIELD CASE, AM | |
| 53 | * 3-681-180-00 | CASE (MAIN), SHIELD, AM | |
| 54 | * 2-352-114-01 | PLATE (A), SHIELD | |
| 55 | * 3-691-760-01 | LID, REAR, SHIELD CASE (1), AU | |
| 56 | * 2-352-113-01 | CASE, SHIELD | |
| 57 | * A-7062-540-A | CB-30 BOARD, COMPLETE | |
| 58 | * 2-352-115-01 | LID, SHIELD CASE | |
| 59 | * 3-657-842-31 | SPACER (3X7.5) | |
| 60 | * 3-681-181-00 | LID, UPPER, SHIELD CASE, AM | |
| 61 | * 3-691-759-01 | LID, SHIELD CASE (1), AU | |
| 62 | * A-7062-539-A | PP-10 BOARD, COMPLETE | |
| 63 | * A-7052-544-A | MB-45 BOARD, COMPLETE | |
| 64 | * A-7062-542-A | DP-40B BOARD, COMPLETE | |
| 65 | X-3749-076-1 | HOLDER ASSY, MAIN PC BOARD | |
| 66 | * 3-657-842-31 | SPACER (3X7.5) | |
| 67 | 1-590-430-11 | WIRE, FLAT TYPE (22 CORE) | |
| 68 | 1-590-429-11 | WIRE, FLAT TYPE (22 CORE) | |
| 69 | 3-531-576-01 | RIVET | |

## 6-3. CHASSIS SECTION

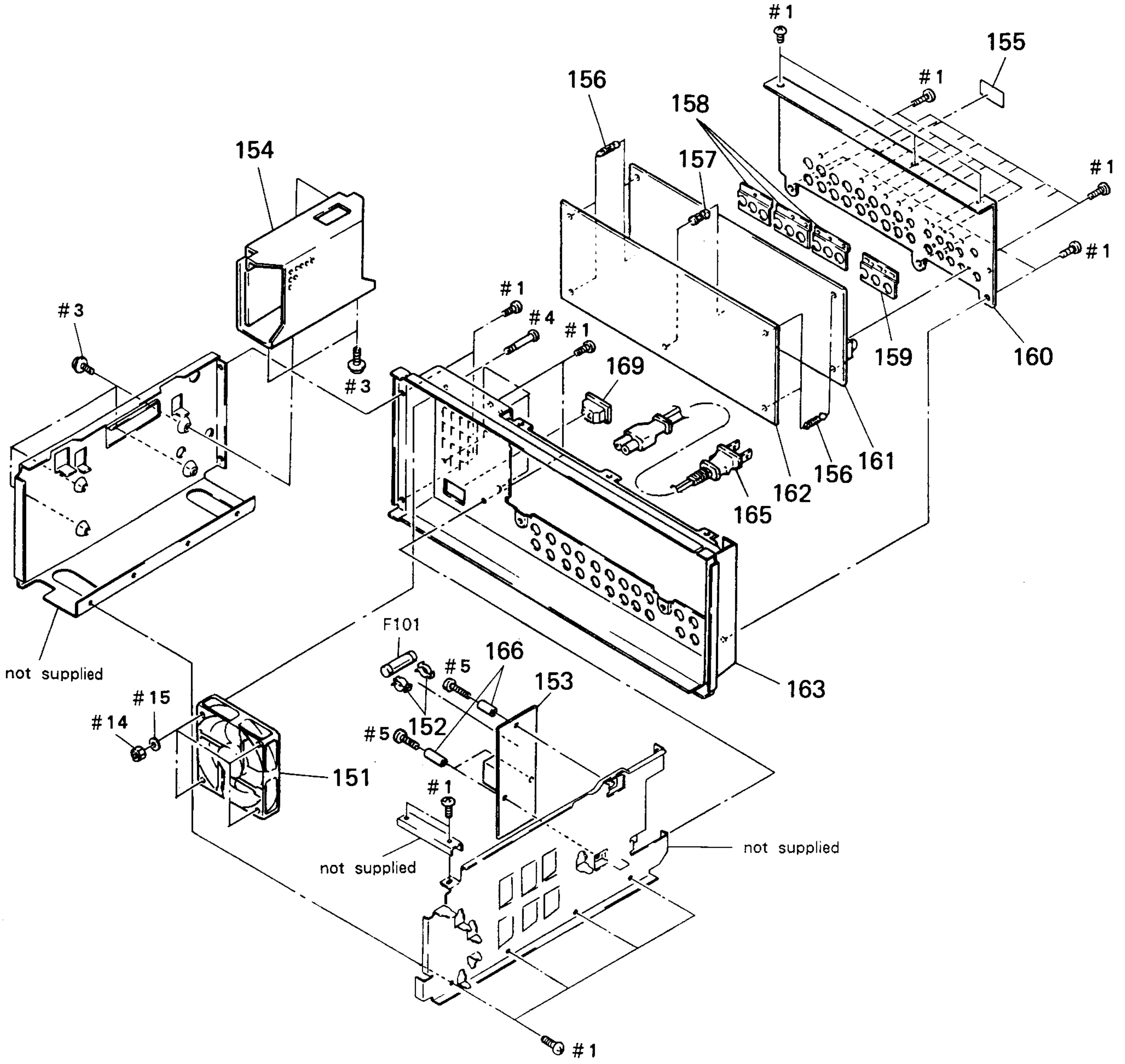


**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 101 | * A-7062-543-A | AP-20 BOARD, COMPLETE | |
| 102 | * A-6766-374-A | TS-120 BOARD, COMPLETE | |
| 103 | * 1-533-189-11 | HOLDER, FUSE | |
| 104 | * 3-703-353-11 | SUPPORT, PC BOARD | |
| 105 | 1-629-874-11 | GM-6 BOARD | |
| 106 | * A-6766-381-A | TS-127 BOARD, COMPLETE | |
| 107 | * A-6766-380-A | TS-126 BOARD, COMPLETE | |
| 108 | * 4-880-403-11 | HEAT SINK | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| F201 | ⚠ 1-532-078-00 | FUSE, TIME-LAG (T1A) | |
| F202 | ⚠ 1-532-237-00 | FUSE, TIME-LAG (T3.15A) | |
| F203 | ⚠ 1-532-203-00 | FUSE, TIME-LAG (T2A) | |
| F204 | ⚠ 1-532-299-00 | FUSE, TIME-LAG (T5A) | |
| F205 | ⚠ 1-532-350-00 | FUSE, TIME-LAG (T4A) | |
| F206 | ⚠ 1-532-350-00 | FUSE, TIME-LAG (T4A) | |
| F207 | ⚠ 1-532-286-00 | FUSE, TIME-LAG (T2.5A) | |

## 6-4. REAR PANEL SECTION



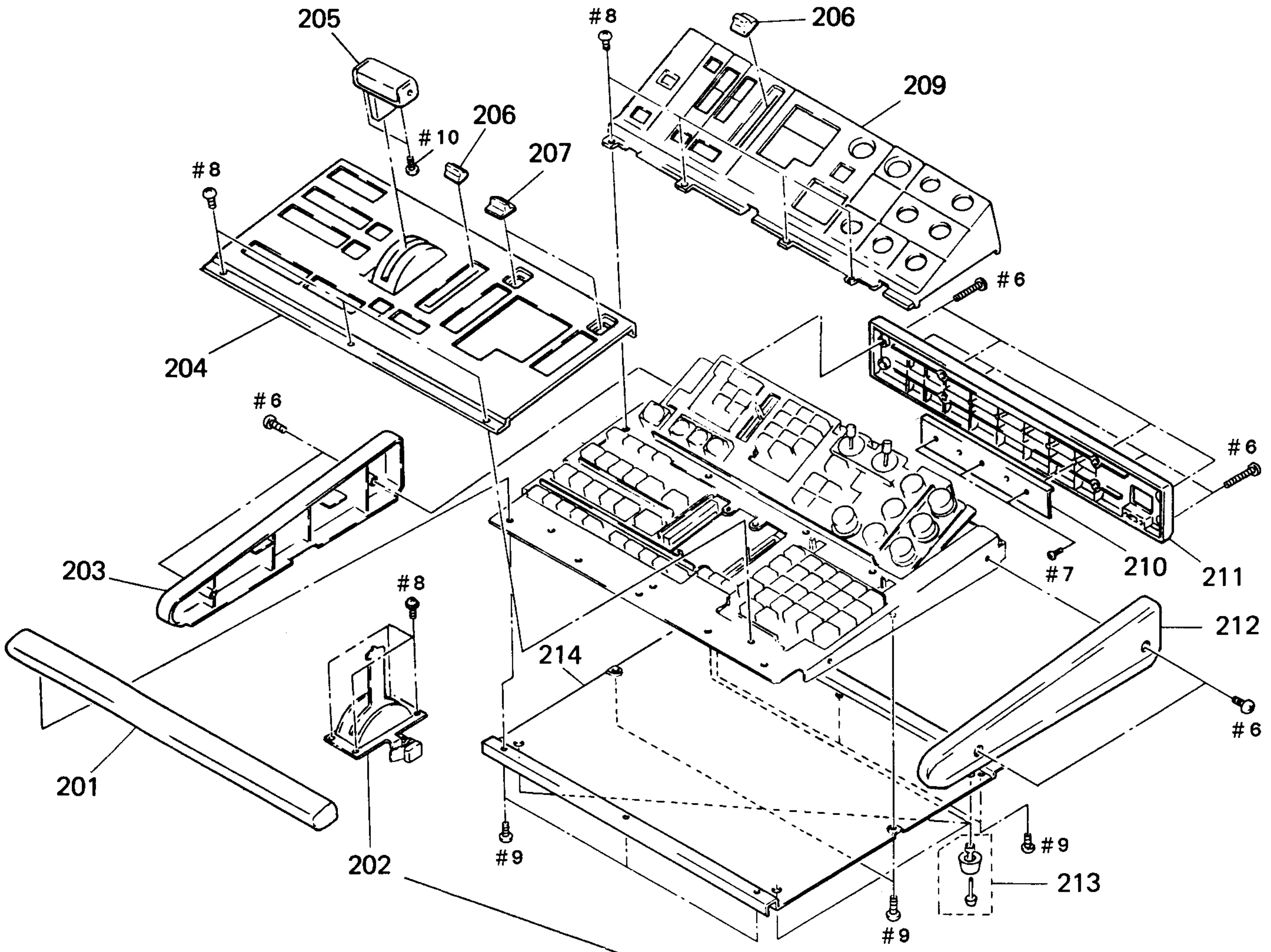
#1
155
#1
156
158
157
154
#1
#1
#1
#4
#1
#3
169
159
160
#3
156
161
162
165
F101
166
#5
153
163
not supplied
#15
#14
#5
152
151
#1
not supplied
not supplied
#1

**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 151 | 1-541-524-11 | MOTOR, DC FAN | |
| 152 | * 1-533-189-11 | HOLDER, FUSE | |
| 153 | * 1-637-733-11 | AC-82 BOARD | |
| 154 | ⚠· 1-413-606-11 | SWITCHING BLOCK | |
| 155 | * 3-941-304-01 | LABEL, MODEL NUMBER (E) | |
| 156 | * 3-682-419-11 | HOLDER, P. C. B | |
| 157 | 3-682-057-11 | SPACER (SMALL) | |
| 158 | 2-131-258-11 | BRACKET, S TERMINAL | |
| 159 | 2-131-258-01 | BRACKET, S TERMINAL | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 160 | * 2-131-259-11 | PANEL (SUB), REAR | |
| 161 | * A-6766-383-A | TS-124 BOARD, COMPLETE | |
| 162 | * A-6766-384-A | TS-125 BOARD, COMPLETE | |
| 163 | * 2-131-270-11 | PANEL (MAIN), REAR | |
| 165 | ⚠· 1-574-056-11 | CORD, POWER | |
| 166 | 3-002-407-08 | COLLAR | |
| 169 | ⚠· 1-540-054-11 | INLET, AC | |
| F101 | ⚠· 1-532-237-00 | FUSE, TIME-LAG (T3. 15A) | |

## 6-5. CONTROL UNIT SECTION-1


205
#8
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211
#6
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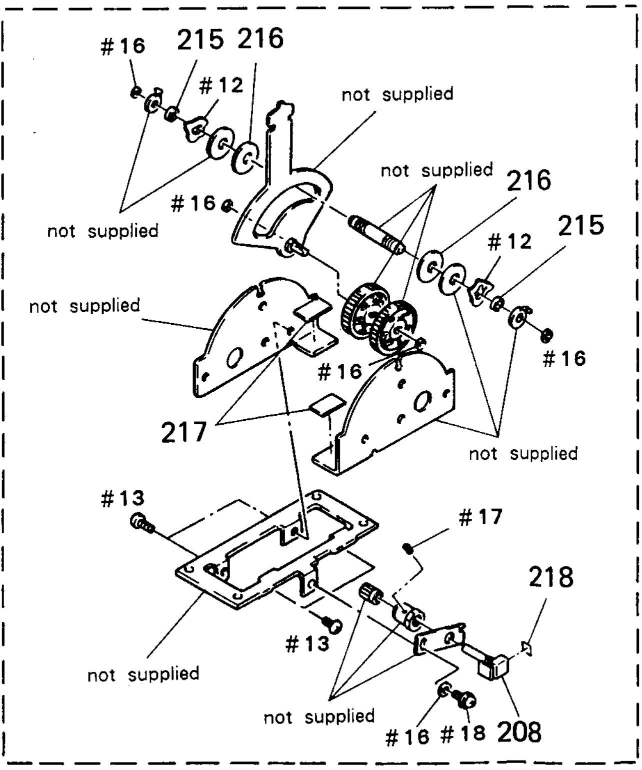
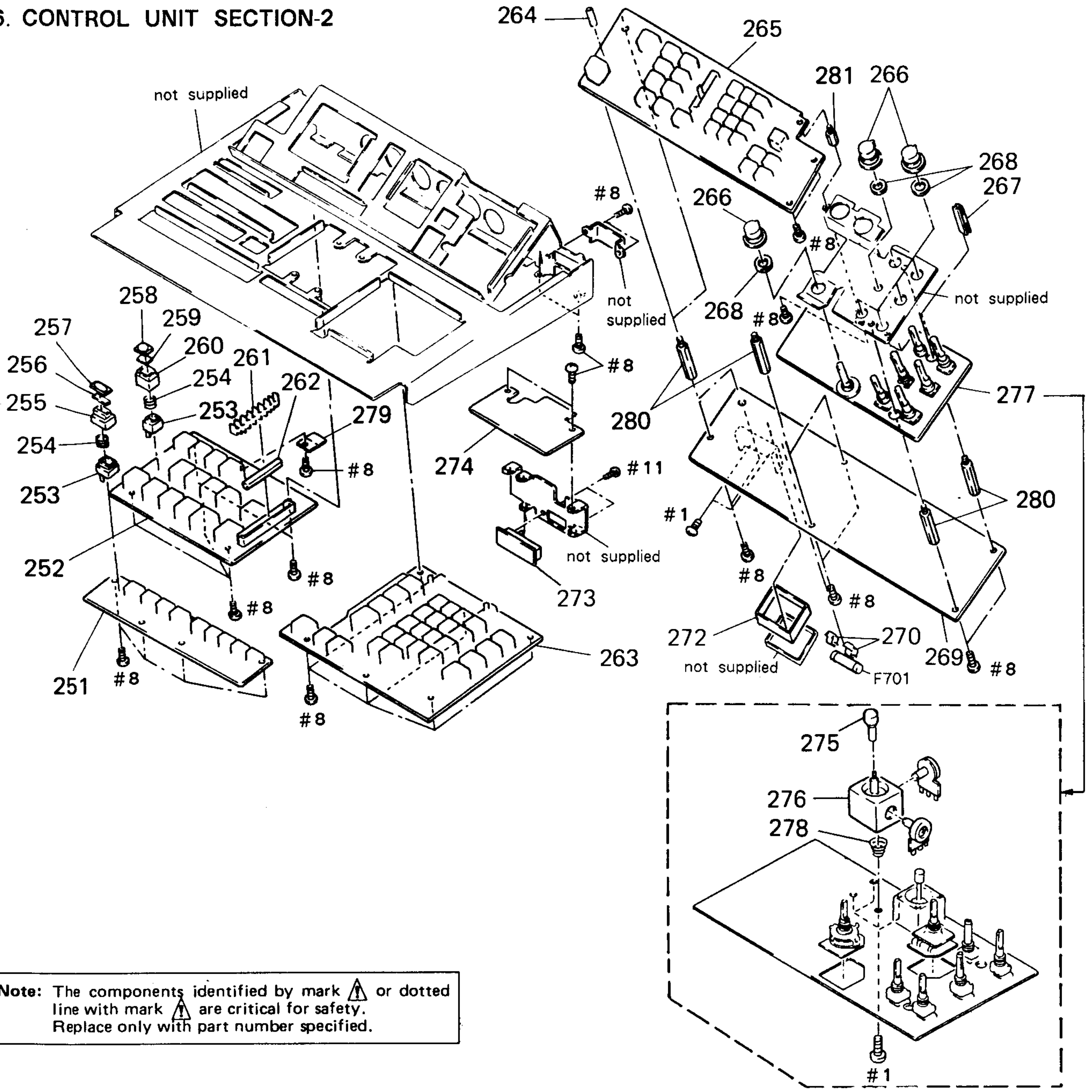
201
202
#9
#9
213
#9


#16
215 216
#12
not supplied
not supplied
216
#16
215
not supplied
#12
not supplied
#16
#16
217
not supplied
#13
#17
218
#13
not supplied
not supplied
#16 #18 208

| Ref. No. | | Part No. | Description | Remark |
|---|---|---|---|---|
| 201 | * | 2-131-299-01 | BAR, FRONT | |
| 202 | | A-7612-269-B | FADER ASSY | |
| 203 | * | 2-135-401-01 | PANEL (LEFT), SIDE | |
| 204 | | A-6768-508-A | PANEL (B) ASSY | |
| 205 | | X-2112-804-1 | LEVER ASSY | |
| 206 | | 2-112-812-01 | KNOB, VR, SLIDE | |
| 207 | | 2-131-284-01 | KNOB, SLIDE SWITCH | |
| 208 | | 1-237-127-11 | RES, VAR, CARBON 5K | |
| 209 | | A-6768-507-A | PANEL (A) ASSY | |
| 210 | * | 2-135-450-01 | REINFORCEMENT, BACK PANEL | |
| 211 | * | 2-135-408-01 | PANEL, BACK | |
| 212 | * | 2-135-402-01 | PANEL (RIGHT), SIDE | |
| 213 | | 3-670-155-11 | LEG | |
| 214 | * | 2-135-406-01 | PLATE, BOTTOM | |
| 215 | | 3-701-441-21 | WASHER | |
| 216 | | 9-911-838-XX | CUSHION, STAY | |
| 217 | * | 2-112-899-01 | SPACER, RUBBER | |
| 218 | * | 1-617-831-11 | VR-26 BOARD | |

## 6-6. CONTROL UNIT SECTION-2


264
265
281
266
268
267
not supplied
#8
266
#8
not supplied
268
#8
not supplied
258
257
259
256
260
261
254
262
255
253
279
254
#8
253
274
#11
280
277
280
#1
252
#8
not supplied
#8
#8
273
#8
272
270
263
not supplied
F701
269
#8
251
#8
#8
275
276
278
#1

**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 251 | * A-7062-549-A | CR-20 BOARD, COMPLETE | |
| 252 | * A-7051-484-A | CR-18 BOARD, COMPLETE | |
| 253 | 2-131-298-01 | BASE | |
| 254 | 2-131-285-01 | SPRING | |
| 255 | 2-131-286-01 | SLIDER (SMALL) | |
| 256 | 3-940-908-01 | SHEET (SMALL), FILTER | |
| 257 | 2-135-403-01 | CAP (SMALL) | |
| 258 | 2-135-404-01 | CAP (LARGE) | |
| 259 | 3-749-292-01 | SHEET (LARGE), FILTER | |
| 260 | 2-131-287-01 | SLIDER (LARGE) | |
| 261 | 2-135-449-01 | LOUVER, LED | |
| 262 | * 2-131-293-01 | HOLDER, LEC, 11GANG | |
| 263 | * A-7051-485-A | CR-19 BOARD, COMPLETE | |
| 264 | * 3-670-095-00 | HOLDER, LED | |
| 265 | * A-7062-546-A | CR-17 BOARD, COMPLETE | |
| 266 | X-2118-214-1 | KNOB (L) ASSY, VOL | |
| 267 | * 3-317-119-00 | HOLDER (B), LED | |
| 268 | 2-118-268-01 | NUT (M9), HEXAGON | |
| 269 | * A-7062-545-A | CM-12E BOARD, COMPLETE | |
| 270 | * 1-533-189-11 | HOLDER, FUSE | |
| 272 | * 3-682-602-00 | CASE (MAIN), SHIELD, DC | |
| 273 | * 1-629-639-11 | CS-13 BOARD | |
| 274 | * 1-629-636-11 | CR-21 BOARD | |
| 275 | 2-131-295-01 | LEVER, STICK | |
| 276 | * A-7612-270-A | KNOB ASSY, LEVER | |
| 277 | * A-7051-481-A | VR-18 BOARD, COMPLETE | |
| 278 | 3-545-695-01 | SPRING | |
| 279 | * 2-135-443-01 | RETAINER, PC BOARD | |
| 280 | * 2-131-294-01 | STUD (B) | |
| 281 | * 2-131-283-01 | STUD (C) | |
| F701 | ⚠ 1-532-743-11 | FUSE, GLASS TUBE (2A) | |

# SECTION 7
# ELECTRICAL PARTS LIST

**AC-82** **AC-83** **AP-20**

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some difference frome the original one.
- SEMICONDUCTORS
  In each case, u: $\mu$, for example:
  uA....: $\mu$A...., uPA....: $\mu$PA....
  uPB....: $\mu$PB...., uPC....: $\mu$PC....
  uPD....: $\mu$PD....
- CAPACITORS
  uF: $\mu$F
- COILS
  uH: $\mu$H

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | * 1-637-733-11 | AC-82 BOARD (Ref.No 1,000 Series)<br>*********** | |
| | * 1-533-189-11 | HOLDER, FUSE | |
| | | < CONNECTOR > | |
| CN109 | * 1-564-687-11 | PIN, CONNECTOR 3P | |
| CN110 | * 1-564-321-00 | PIN, CONNECTOR 2P | |
| | | < FUSE > | |
| F101 | ⚠ 1-532-237-00 | FUSE, TIME-LAG (T3.15A) | |
| | | < FILTER > | |
| FL101 | 1-421-771-11 | FILTER, LINE | |

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| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | * 1-637-734-11 | AC-83 BOARD (Ref.No 1,000 Series)<br>*********** | |
| | | < CAPACITOR > | |
| C101 | ⚠ 1-161-744-00 | CERAMIC 0.01uF | 400V |
| | | < SWITCH > | |
| S101 | ⚠ 1-554-920-11 | SWITCH, PUSH (AC POWER) (1 KEY) | |

************************************************************

| Ref. No. | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| | * A-7062-543-A | AP-20 BOARD, COMPLETE<br>********************<br>(Ref.No 1,000 Series) | | | | |
| | | < CAPACITOR > | | | | |
| C301 | 1-124-563-11 | ELECT | 2200uF | 20% | 25V | |
| C302 | 1-124-563-11 | ELECT | 2200uF | 20% | 25V | |
| C303 | 1-124-563-11 | ELECT | 2200uF | 20% | 25V | |
| C304 | 1-124-563-11 | ELECT | 2200uF | 20% | 25V | |
| C305 | 1-130-483-00 | MYLAR | 0.01uF | 5% | 50V | |
| C306 | 1-130-483-00 | MYLAR | 0.01uF | 5% | 50V | |
| C307 | 1-124-360-00 | ELECT | 1000uF | 20% | 16V | |
| C308 | 1-124-360-00 | ELECT | 1000uF | 20% | 16V | |
| C309 | 1-130-483-00 | MYLAR | 0.01uF | 5% | 50V | |
| C310 | 1-130-483-00 | MYLAR | 0.01uF | 5% | 50V | |
| C311 | 1-130-483-00 | MYLAR | 0.01uF | 5% | 50V | |
| C312 | 1-130-483-00 | MYLAR | 0.01uF | 5% | 50V | |
| C313 | 1-124-360-00 | ELECT | 1000uF | 20% | 16V | |
| C314 | 1-124-360-00 | ELECT | 1000uF | 20% | 16V | |
| C315 | 1-123-356-00 | ELECT | 10uF | 20% | 16V | |
| C316 | 1-123-356-00 | ELECT | 10uF | 20% | 16V | |
| C317 | 1-124-122-11 | ELECT | 100uF | 20% | 50V | |
| C320 | 1-124-122-11 | ELECT | 100uF | 20% | 50V | |
| C321 | 1-123-356-00 | ELECT | 10uF | 20% | 16V | |
| C322 | 1-123-356-00 | ELECT | 10uF | 20% | 16V | |
| C323 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C324 | 1-123-356-00 | ELECT | 10uF | 20% | 16V | |
| C325 | 1-123-356-00 | ELECT | 10uF | 20% | 16V | |
| C326 | 1-123-356-00 | ELECT | 10uF | 20% | 16V | |
| C327 | 1-123-356-00 | ELECT | 10uF | 20% | 16V | |
| C328 | 1-124-122-11 | ELECT | 100uF | 20% | 50V | |
| C329 | 1-123-356-00 | ELECT | 10uF | 20% | 16V | |
| C330 | 1-123-356-00 | ELECT | 10uF | 20% | 16V | |
| C331 | 1-124-122-11 | ELECT | 100uF | 20% | 50V | |

## AP-20

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C334 | 1-124-122-11 | ELECT | 100uF | 20% | 50V |
| C335 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C336 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C337 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V |
| C338 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C339 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C340 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C341 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C342 | 1-124-122-11 | ELECT | 100uF | 20% | 50V |
| C343 | 1-124-122-11 | ELECT | 100uF | 20% | 50V |
| C344 | 1-101-880-00 | CERAMIC | 47PF | 5% | 50V |
| C345 | 1-124-122-11 | ELECT | 100uF | 20% | 50V |
| C346 | 1-101-880-00 | CERAMIC | 47PF | 5% | 50V |
| C347 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C348 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C349 | 1-124-122-11 | ELECT | 100uF | 20% | 50V |
| C352 | 1-124-122-11 | ELECT | 100uF | 20% | 50V |
| C353 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C354 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C355 | 1-124-122-11 | ELECT | 100uF | 20% | 50V |
| C358 | 1-124-122-11 | ELECT | 100uF | 20% | 50V |
| C359 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C360 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C361 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C362 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C363 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C364 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C365 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C366 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C367 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C368 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C369 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C370 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C373 | 1-124-122-11 | ELECT | 100uF | 20% | 50V |
| C374 | 1-124-122-11 | ELECT | 100uF | 20% | 50V |
| C375 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C376 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C377 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C378 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C379 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C380 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C383 | 1-124-122-11 | ELECT | 100uF | 20% | 50V |
| C384 | 1-124-122-11 | ELECT | 100uF | 20% | 50V |
| C385 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C386 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C387 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C388 | 1-123-356-00 | ELECT | 10uF | 20% | 16V |
| C389 | 1-126-101-11 | ELECT | 100uF | 20% | 16V |
| C390 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| C391 | 1-101-880-00 | CERAMIC 47PF 5% | 50V |
| | | < CONNECTOR > | |
| CN301 | * 1-564-028-00 | PIN, CONNECTOR 3P | |
| | | < JACK > | |
| CNJ301 | 1-563-562-11 | JACK, PIN 4P (AUX IN/SOURCE 4) | |
| CNJ302 | 1-563-524-41 | JACK, PIN 6P (SOURCE 1, 2, 3) | |
| CNJ303 | 1-563-524-41 | JACK, PIN 6P (SELECTOR A, B/FS B) | |
| CNJ304 | 1-563-524-41 | JACK, PIN 6P (FS A/PROCESSER 3, 4) | |
| CNJ305 | 1-563-524-41 | JACK, PIN 6P (PROCESSER 1, 2/MONITOR) | |
| | | < DIODE > | |
| D301 | 8-719-511-40 | DIODE S1VB10 | |
| D302 | 8-719-911-19 | DIODE 1SS119 | |
| D303 | 8-719-911-19 | DIODE 1SS119 | |
| D304 | 8-719-911-19 | DIODE 1SS119 | |
| D305 | 8-719-911-19 | DIODE 1SS119 | |
| D306 | 8-719-911-19 | DIODE 1SS119 | |
| D307 | 8-719-911-19 | DIODE 1SS119 | |
| D308 | 8-719-911-19 | DIODE 1SS119 | |
| D309 | 8-719-911-19 | DIODE 1SS119 | |
| D310 | 8-719-911-19 | DIODE 1SS119 | |
| | | < FILTER > | |
| FL301 | 1-424-154-11 | COIL, LINE FILTER | |
| | | < IC > | |
| IC301 | 8-759-604-33 | IC M5F7812 | |
| IC302 | 8-759-604-51 | IC M5F7912 | |
| IC303 | 8-759-604-35 | IC M5F78M05 | |
| IC304 | 8-759-982-52 | IC RC79M05FA | |
| IC305 | 8-759-208-08 | IC TC4052BPHB | |
| IC306 | 8-759-900-72 | IC NE5532-P | |
| IC307 | 8-759-605-46 | IC M51131L | |
| IC308 | 8-759-208-08 | IC TC4052BPHB | |
| IC309 | 8-759-900-72 | IC NE5532-P | |
| IC310 | 8-759-605-46 | IC M51131L | |
| IC311 | 8-759-900-72 | IC NE5532-P | |
| IC312 | 8-759-900-72 | IC NE5532-P | |
| IC313 | 8-759-900-72 | IC NE5532-P | |
| IC314 | 8-759-208-08 | IC TC4052BPHB | |
| IC315 | 8-759-900-72 | IC NE5532-P | |
| IC316 | 8-759-208-08 | IC TC4052BPHB | |
| IC317 | 8-759-900-72 | IC NE5532-P | |
| IC318 | 8-759-135-80 | IC uPC358C | |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| | | < TRANSISTOR > | | | | |
| Q301 | 8-729-115-83 | TRANSISTOR | BA1A3Q | | | |
| Q302 | 8-729-115-83 | TRANSISTOR | BA1A3Q | | | |
| Q303 | 8-729-115-83 | TRANSISTOR | BA1A3Q | | | |
| Q304 | 8-729-115-83 | TRANSISTOR | BA1A3Q | | | |
| Q305 | 8-729-115-83 | TRANSISTOR | BA1A3Q | | | |
| Q306 | 8-729-115-83 | TRANSISTOR | BA1A3Q | | | |
| Q307 | 8-729-115-83 | TRANSISTOR | BA1A3Q | | | |
| Q308 | 8-729-115-83 | TRANSISTOR | BA1A3Q | | | |
| Q309 | 8-729-115-83 | TRANSISTOR | BA1A3Q | | | |
| | | < RESISTOR > | | | | |
| R301 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R302 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R303 | 1-249-439-11 | CARBON | 68K | 5% | 1/4W | |
| R304 | 1-249-439-11 | CARBON | 68K | 5% | 1/4W | |
| R305 | 1-249-439-11 | CARBON | 68K | 5% | 1/4W | |
| R306 | 1-249-439-11 | CARBON | 68K | 5% | 1/4W | |
| R307 | 1-249-439-11 | CARBON | 68K | 5% | 1/4W | |
| R308 | 1-249-439-11 | CARBON | 68K | 5% | 1/4W | |
| R309 | 1-249-439-11 | CARBON | 68K | 5% | 1/4W | |
| R310 | 1-249-439-11 | CARBON | 68K | 5% | 1/4W | |
| R311 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R312 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R313 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R314 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R315 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R316 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R317 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R318 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R319 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R320 | 1-247-899-11 | CARBON | 680K | 5% | 1/4W | |
| R321 | 1-247-899-11 | CARBON | 680K | 5% | 1/4W | |
| R322 | 1-247-887-00 | CARBON | 220K | 5% | 1/4W | |
| R323 | 1-247-887-00 | CARBON | 220K | 5% | 1/4W | |
| R324 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W | |
| R325 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W | |
| R326 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R327 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W | |
| R330 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R331 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R332 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R333 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R334 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R335 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R336 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R337 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R338 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R339 | 1-247-899-11 | CARBON | 680K | 5% | 1/4W | |
| R340 | 1-247-899-11 | CARBON | 680K | 5% | 1/4W | |
| R341 | 1-247-887-00 | CARBON | 220K | 5% | 1/4W | |
| R342 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W | |
| R343 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W | |
| R344 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R345 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W | |
| R348 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W | |
| R349 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R350 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R351 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W | |
| R352 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R353 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W | |
| R354 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W | |
| R355 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R356 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W | |
| R357 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W | |
| R358 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W | |
| R359 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W | |
| R360 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W | |
| R361 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W | |
| R362 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W | |
| R363 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W | |
| R364 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R365 | 1-247-899-11 | CARBON | 680K | 5% | 1/4W | |
| R366 | 1-247-899-11 | CARBON | 680K | 5% | 1/4W | |
| R367 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R368 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R369 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W | |
| R370 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W | |
| R371 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R372 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R373 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R374 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R375 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W | |
| R376 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W | |
| R377 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W | |
| R378 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W | |
| R379 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W | |
| R380 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W | |
| R381 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W | |
| R382 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W | |
| R383 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R384 | 1-247-899-11 | CARBON | 680K | 5% | 1/4W | |
| R385 | 1-247-899-11 | CARBON | 680K | 5% | 1/4W | |
| R386 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R387 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R388 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W | |
| R389 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W | |
| R390 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |

When indicating parts by reference number, please include the board name.

## AP-20 CB-30

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R391 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R392 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R393 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R394 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R395 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R396 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R397 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R398 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R399 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R400 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R401 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R402 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R403 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R404 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R405 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R406 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W |
| R407 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W |
| R408 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W |
| R409 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R410 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R411 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W |
| R412 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R413 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R414 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R415 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R416 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R417 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R418 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R419 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R420 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R421 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R422 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W |
| R423 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W |
| R424 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W |
| R425 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W |
| R426 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R427 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R428 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R429 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R430 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R431 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R432 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R433 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R434 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R435 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R436 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R437 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R438 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W |
| R439 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W |
| R440 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R441 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R442 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R443 | 1-249-439-11 | CARBON | 68K | 5% | 1/4W |
| R444 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R445 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R446 | 1-247-887-00 | CARBON | 220K | 5% | 1/4W |
| | | < VARIABLE RESISTOR > | | | |
| RV301 | 1-228-993-00 | RES, ADJ, METAL 4.7K (A.B L LEVEL) | | | |
| RV302 | 1-228-993-00 | RES, ADJ, METAL 4.7K (A.B R LEVEL) | | | |
| RV303 | 1-228-995-00 | RES, ADJ, METAL 22K (FADER) | | | |
| RV304 | 1-228-995-00 | RES, ADJ, METAL 22K (FADER) | | | |
| RV305 | 1-228-991-00 | RES, ADJ, METAL 2.2K (FADER REF) | | | |
| | | < RELAY > | | | |
| RY301 | 1-515-622-11 | RELAY | | | |
| RY302 | 1-515-622-11 | RELAY | | | |
| RY303 | 1-515-622-11 | RELAY | | | |
| RY304 | 1-515-622-11 | RELAY | | | |
| RY305 | 1-515-622-11 | RELAY | | | |
| RY306 | 1-515-622-11 | RELAY | | | |
| RY307 | 1-515-622-11 | RELAY | | | |
| RY308 | 1-515-622-11 | RELAY | | | |
| RY309 | 1-515-622-11 | RELAY | | | |

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* A-7062-540-A CB-30 BOARD, COMPLETE

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(Ref. No 6,000 Series)

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| * | 2-352-113-01 | CASE, SHIELD | | | |
| * | 2-352-114-01 | PLATE (A), SHIELD | | | |
| * | 2-352-115-01 | LID, SHIELD CASE | | | |
| * | 3-657-842-31 | SPACER (3X7.5) | | | |
| * | 3-681-180-00 | CASE (MAIN), SHIELD, AM | | | |
| * | 3-681-181-00 | LID, UPPER, SHIELD CASE, AM | | | |
| * | 3-681-182-00 | LID, BOTTOM, SHIELD CASE, AM | | | |
| * | 3-691-759-01 | LID, SHIELD CASE (1), AU | | | |
| * | 3-691-760-01 | LID, REAR, SHIELD CASE (1), AU | | | |
| | 3-701-748-00 | CLAMP | | | |
| | 7-685-646-79 | SCREW +BVTP 3X8 TYPE2 IT-3 | | | |
| | 7-685-646-79 | SCREW +BVTP 3X8 TYPE2 | | | |
| | 7-682-550-04 | SCREW +BVTT 3X12 (S) | | | |
| | | < CAPACITOR > | | | |
| C001 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C002 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C003 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C004 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C005 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C006 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C007 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C008 | 1-163-105-00 | CERAMIC CHIP | 33PF | 5% | 50V |
| C009 | 1-163-105-00 | CERAMIC CHIP | 33PF | 5% | 50V |
| C010 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C011 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C012 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C013 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C014 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C015 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C016 | 1-123-382-00 | ELECT | 3.3uF | 20% | 100V |
| C017 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C018 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C019 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C020 | 1-123-382-00 | ELECT | 3.3uF | 20% | 100V |
| C021 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |
| C022 | 1-123-382-00 | ELECT | 3.3uF | 20% | 100V |
| C023 | 1-123-382-00 | ELECT | 3.3uF | 20% | 100V |
| C024 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |
| C025 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C026 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C027 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C028 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C029 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C030 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C031 | 1-123-382-00 | ELECT | 3.3uF | 20% | 100V |
| C032 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C033 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |
| C034 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C035 | 1-123-382-00 | ELECT | 3.3uF | 20% | 100V |
| C036 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C037 | 1-123-382-00 | ELECT | 3.3uF | 20% | 100V |
| C038 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C039 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |
| C040 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C041 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C042 | 1-124-570-11 | ELECT | 220uF | 20% | 16V |
| C043 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C044 | 1-124-569-11 | ELECT | 56uF | 20% | 16V |
| C045 | 1-124-570-11 | ELECT | 220uF | 20% | 16V |
| C046 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C047 | 1-124-570-11 | ELECT | 220uF | 20% | 16V |
| C048 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C049 | 1-124-569-11 | ELECT | 56uF | 20% | 16V |
| C050 | 1-124-570-11 | ELECT | 220uF | 20% | 16V |
| C051 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C052 | 1-124-570-11 | ELECT | 220uF | 20% | 16V |
| C053 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C054 | 1-124-569-11 | ELECT | 56uF | 20% | 16V |
| C056 | 1-124-570-11 | ELECT | 220uF | 20% | 16V |
| C057 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C058 | 1-124-510-11 | ELECT | 220uF | 20% | 25V |
| C059 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C060 | 1-124-943-11 | ELECT | 39uF | 20% | 25V |
| C061 | 1-124-510-11 | ELECT | 220uF | 20% | 25V |
| C062 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C063 | 1-124-477-11 | ELECT | 47uF | 20% | 25V |
| C064 | 1-124-477-11 | ELECT | 47uF | 20% | 25V |
| C065 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C066 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C067 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C068 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C069 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C070 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C071 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C072 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C073 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C074 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C101 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C102 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C103 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C104 | 1-163-103-00 | CERAMIC CHIP | 27PF | 5% | 50V |
| C105 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C106 | 1-163-809-11 | CERAMIC CHIP | 0.047uF | 10% | 25V |
| C107 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C108 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C109 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C110 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C111 | 1-163-245-11 | CERAMIC CHIP | 56PF | 5% | 50V |
| C112 | 1-163-245-11 | CERAMIC CHIP | 56PF | 5% | 50V |
| C113 | 1-163-119-00 | CERAMIC CHIP | 120PF | 5% | 50V |
| C114 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C115 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C116 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C117 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C118 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C119 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C120 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C121 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C122 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V |
| C123 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C124 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C125 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C126 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C127 | 1-163-103-00 | CERAMIC CHIP | 27PF | 5% | 50V |
| C128 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C129 | 1-163-809-11 | CERAMIC CHIP | 0.047uF | 10% | 25V |

When indicating parts by reference number, please include the board name.

## CB-30

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C130 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C131 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C132 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C134 | 1-163-115-00 | CERAMIC CHIP | 82PF | 5% | 50V |
| C135 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C136 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C137 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C138 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C139 | 1-131-347-00 | TANTALUM | 1uF | 10% | 35V |
| C141 | 1-163-088-00 | CERAMIC CHIP | 5PF | 5% | 50V |
| C142 | 1-163-103-00 | CERAMIC CHIP | 27PF | 5% | 50V |
| C143 | 1-163-103-00 | CERAMIC CHIP | 27PF | 5% | 50V |
| C144 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C145 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C146 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C147 | 1-131-345-00 | TANTALUM | 0.47uF | 10% | 35V |
| C148 | 1-163-229-01 | CERAMIC CHIP | 12PF | 5% | 50V |
| C149 | 1-163-103-00 | CERAMIC CHIP | 27PF | 5% | 50V |
| C150 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C151 | 1-163-103-00 | CERAMIC CHIP | 27PF | 5% | 50V |
| C152 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C160 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V |
| C162 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V |
| C163 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C164 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C165 | 1-131-370-00 | TANTALUM | 6.8uF | 10% | 16V |
| C166 | 1-163-099-00 | CERAMIC CHIP | 18PF | 5% | 50V |
| C167 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C168 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C169 | 1-131-370-00 | TANTALUM | 6.8uF | 10% | 16V |
| C170 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C171 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C172 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C173 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C174 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C175 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C176 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C177 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C178 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C179 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C180 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C181 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C182 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C183 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C184 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C185 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C186 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C187 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C188 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C189 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C190 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C191 | 1-163-121-00 | CERAMIC CHIP | 150PF | 5% | 50V |
| C192 | 1-164-182-11 | CERAMIC CHIP | 0.0033uF | 10% | 50V |
| C193 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C195 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C196 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C197 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C198 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C199 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C200 | 1-124-903-11 | ELECT | 1uF | 20% | 50V |
| C202 | 1-163-103-00 | CERAMIC CHIP | 27PF | 5% | 50V |
| C203 | 1-163-103-00 | CERAMIC CHIP | 27PF | 5% | 50V |
| C204 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C205 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C206 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C207 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C208 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C209 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C210 | 1-163-227-11 | CERAMIC CHIP | 10PF | 5% | 50V |
| C211 | 1-163-109-00 | CERAMIC CHIP | 47PF | 5% | 50V |
| C212 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C213 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C214 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C215 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C216 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C217 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C218 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C219 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C220 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C221 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C223 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C224 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C225 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C226 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C227 | 1-163-096-00 | CERAMIC CHIP | 13PF | 5% | 50V |
| C228 | 1-163-241-11 | CERAMIC CHIP | 39PF | 5% | 50V |
| C229 | 1-163-116-00 | CERAMIC CHIP | 91PF | 5% | 50V |
| C230 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C232 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C233 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C234 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C235 | 1-163-263-11 | CERAMIC CHIP | 330PF | 5% | 50V |
| C236 | 1-163-263-11 | CERAMIC CHIP | 330PF | 5% | 50V |
| C237 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C240 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |
| C241 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |
| C250 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C251 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C260 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C261 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C262 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C301 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C302 | 1-163-137-00 | CERAMIC CHIP | 680PF | 5% | 50V |
| C303 | 1-124-477-11 | ELECT | 47uF | 20% | 25V |
| C360 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C361 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C362 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C363 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C364 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C501 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C901 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C902 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C903 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C904 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C905 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C906 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C907 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C908 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C909 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |

< CONNECTOR >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| CN101 | * 1-562-991-11 | SOCKET, CONNECTOR 22P | |
| CN102 | * 1-562-991-11 | SOCKET, CONNECTOR 22P | |
| CN103 | 1-506-476-11 | CONNECTOR 11P, MALE | |
| CN104 | 1-506-472-11 | CONNECTOR 7P, MALE | |
| CN106 | 1-506-470-11 | CONNECTOR 5P, MALE | |
| CN110 | 1-506-470-11 | CONNECTOR 5P, MALE | |
| CN111 | * 1-560-896-00 | PIN, CONNECTOR 8P | |
| CN112 | * 1-560-896-00 | PIN, CONNECTOR 8P | |
| CN115 | * 1-562-991-11 | SOCKET, CONNECTOR 22P | |
| CN117 | * 1-560-895-00 | PIN, CONNECTOR 7P | |

< TRIMMER >

| Ref. No. | Part No. | Description | | Remark |
|---|---|---|---|---|
| CV001 | 1-141-304-21 | CAP, TRIMMER | 10PF | |
| CV101 | 1-141-304-21 | CAP, TRIMMER | 10PF | |
| CV102 | 1-141-304-21 | CAP, TRIMMER | 10PF | |

< DIODE >

| Ref. No. | Part No. | Description | | Remark |
|---|---|---|---|---|
| D001 | 8-719-800-76 | DIODE | 1SS226 | |
| D002 | 8-719-800-76 | DIODE | 1SS226 | |
| D003 | 8-719-800-76 | DIODE | 1SS226 | |
| D004 | 8-719-800-76 | DIODE | 1SS226 | |
| D101 | 8-719-800-76 | DIODE | 1SS226 | |
| D102 | 8-719-800-76 | DIODE | 1SS226 | |
| D103 | 8-719-800-76 | DIODE | 1SS226 | |
| D104 | 8-719-800-76 | DIODE | 1SS226 | |
| D105 | 8-719-105-58 | DIODE | RD3.9M-B2 | |
| D106 | 8-713-300-88 | DIODE | 1T33C-01 | |
| D107 | 8-713-300-88 | DIODE | 1T33C-01 | |
| D108 | 8-713-300-88 | DIODE | 1T33C-01 | |

< DELAY LINE >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| DL101 | 1-236-389-11 | LPF, EQ | |

< FILTER >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| FL007 | 1-236-738-11 | FILTER, EMI | |
| FL014 | 1-236-738-11 | FILTER, EMI | |
| FL019 | 1-236-738-11 | FILTER, EMI | |
| FL022 | 1-236-738-11 | FILTER, EMI | |
| FL029 | 1-236-744-21 | FILTER, EMI | |
| FL030 | 1-236-744-21 | FILTER, EMI | |
| FL031 | 1-236-744-21 | FILTER, EMI | |
| FL033 | 1-236-738-11 | FILTER, EMI | |
| FL036 | 1-236-738-11 | FILTER, EMI | |
| FL037 | 1-236-738-11 | FILTER, EMI | |
| FL044 | 1-236-738-11 | FILTER, EMI | |
| FL045 | 1-236-738-11 | FILTER, EMI | |
| FL046 | 1-236-738-11 | FILTER, EMI | |
| FL047 | 1-236-738-11 | FILTER, EMI | |
| FL048 | 1-236-738-11 | FILTER, EMI | |
| FL049 | 1-236-738-11 | FILTER, EMI | |
| FL060 | 1-236-744-21 | FILTER, EMI | |
| FL080 | 1-236-738-11 | FILTER, EMI | |
| FL101 | 1-236-738-11 | FILTER, EMI | |
| FL102 | 1-236-738-11 | FILTER, EMI | |
| FL108 | 1-239-035-11 | FILTER, EMI (CHIP) | |
| FL109 | 1-239-036-11 | FILTER, EMI (CHIP) | |
| FL110 | 1-239-035-11 | FILTER, EMI (CHIP) | |
| FL111 | 1-239-035-11 | FILTER, EMI (CHIP) | |
| FL112 | 1-239-035-11 | FILTER, EMI (CHIP) | |
| FL113 | 1-239-035-11 | FILTER, EMI (CHIP) | |
| FL114 | 1-239-035-11 | FILTER, EMI (CHIP) | |
| FL115 | 1-239-035-11 | FILTER, EMI (CHIP) | |
| FL116 | 1-239-035-11 | FILTER, EMI (CHIP) | |
| FL117 | 1-236-381-11 | LPF | |
| FL118 | 1-236-390-11 | LPF | |
| FL119 | 1-236-381-11 | LPF | |
| FL120 | 1-239-036-11 | FILTER, EMI (CHIP) | |
| FL121 | 1-239-036-11 | FILTER, EMI (CHIP) | |
| FL122 | 1-236-738-11 | FILTER, EMI | |
| FL123 | 1-236-738-11 | FILTER, EMI | |
| FL124 | 1-236-738-11 | FILTER, EMI | |
| FL125 | 1-236-738-11 | FILTER, EMI | |
| FL126 | 1-236-738-11 | FILTER, EMI | |
| FL127 | 1-236-738-11 | FILTER, EMI | |
| FL128 | 1-239-035-11 | FILTER, EMI (CHIP) | |

When indicating parts by reference number, please include the board name.

## CB-30

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| FL907 | 1-239-035-11 | FILTER, EMI (CHIP) | |
| FL908 | 1-239-035-11 | FILTER, EMI (CHIP) | |
| FL909 | 1-239-035-11 | FILTER, EMI (CHIP) | |

< IC >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| IC001 | 8-752-816-69 | IC CXP50116-224Q | |
| IC002 | 8-759-938-68 | IC CXD1095Q | |
| IC004 | 8-759-979-37 | IC MSM72H017FS | |
| IC006 | 8-759-232-90 | IC TC74HC241AF | |
| IC007 | 8-759-100-96 | IC uPC4558G2 | |
| IC008 | 8-759-231-93 | IC TC74HC4051AF | |
| IC009 | 8-759-908-17 | IC TL082CPS | |
| IC010 | 8-759-908-17 | IC TL082CPS | |
| IC011 | 8-759-908-17 | IC TL082CPS | |
| IC012 | 8-759-908-17 | IC TL082CPS | |
| IC013 | 8-759-925-85 | IC SN74HC32NS | |
| IC014 | 8-759-230-XX | IC TC74HC4053AF | |
| IC015 | 8-759-230-XX | IC TC74HC4053AF | |
| IC016 | 8-759-230-XX | IC TC74HC4053AF | |
| IC017 | 8-759-144-82 | IC uPC2405HF | |
| IC018 | 8-759-143-11 | IC uPC24M12HF | |
| IC019 | 8-759-242-74 | IC TC7W04F | |
| IC020 | 8-759-242-76 | IC TC7W08F | |
| IC021 | 8-759-242-74 | IC TC7W04F | |
| IC022 | 8-759-242-74 | IC TC7W04F | |
| IC023 | 8-759-242-76 | IC TC7W08F | |
| IC024 | 8-759-913-41 | IC S-8054ALB | |
| IC025 | 8-759-144-82 | IC uPC2405HF | |
| IC026 | 8-759-982-52 | IC M5F79M05L | |
| IC027 | 8-759-232-32 | IC TC74HC74AF | |
| IC028 | 8-759-239-23 | IC TC74HC86AF | |
| IC029 | 8-759-032-01 | IC MC74HC00AF | |
| IC030 | 8-759-232-32 | IC TC74HC74AF | |
| IC031 | 8-759-232-32 | IC TC74HC74AF | |
| IC032 | 8-759-232-32 | IC TC74HC74AF | |
| IC033 | 8-759-232-32 | IC TC74HC74AF | |
| IC034 | 8-759-232-32 | IC TC74HC74AF | |
| IC101 | 8-759-105-49 | IC uPC319G2 | |
| IC102 | 8-759-907-81 | IC SN74LS221NS | |
| IC103 | 8-759-105-49 | IC uPC319G2 | |
| IC104 | 8-759-242-72 | IC TC7W00F | |
| IC107 | 8-752-335-47 | IC CXD1216M | |
| IC108 | 8-759-230-XX | IC TC74HC4053AF | |
| IC109 | 8-752-332-67 | IC CXD1217M | |
| IC112 | 8-759-907-81 | IC SN74LS221NS | |
| IC113 | 8-759-908-17 | IC TL082CPS | |
| IC114 | 8-759-902-88 | IC SN74LS123NS | |
| IC115 | 8-759-907-81 | IC SN74LS221NS | |
| IC116 | 8-759-232-90 | IC TC74HC241AF | |
| IC117 | 8-759-230-XX | IC TC74HC4053AF | |
| IC118 | 8-759-230-XX | IC TC74HC4053AF | |
| IC119 | 8-759-925-72 | IC SN74HC02NS | |
| IC120 | 8-759-239-23 | IC TC74HC86AF-TP1 | |
| IC121 | 8-759-907-81 | IC SN74LS221NS | |
| IC122 | 8-752-306-51 | IC CX23065A | |
| IC123 | 8-759-242-70 | IC TC7WU04F | |
| IC124 | 8-759-232-32 | IC TC74HC74AF | |
| IC125 | 8-759-603-56 | IC M51272FP | |
| IC126 | 8-759-230-XX | IC TC74HC4053AF | |
| IC127 | 8-759-907-81 | IC SN74LS221NS | |
| IC128 | 8-759-710-09 | IC NJM2233AM | |
| IC129 | 8-759-242-72 | IC TC7W00F | |
| IC901 | 8-759-926-28 | IC SN74HC174NS | |
| IC902 | 8-759-925-74 | IC SN74HC04NS | |
| IC903 | 8-759-925-85 | IC SN74HC32NS | |
| IC904 | 8-759-232-52 | IC TC74HC133AF | |
| IC905 | 8-759-926-28 | IC SN74HC174NS | |
| IC906 | 8-759-926-28 | IC SN74HC174NS | |
| IC907 | 8-759-232-52 | IC TC74HC133AF | |
| IC908 | 8-759-926-28 | IC SN74HC174NS | |
| IC909 | 8-759-240-80 | IC TC74HC153AF | |
| IC910 | 8-752-322-72 | IC CXK1202S | |
| IC911 | 8-759-926-28 | IC SN74HC174NS | |

< COIL >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| L010 | 1-424-090-11 | COIL, LINE FILTER | |
| L011 | 1-424-090-11 | COIL, LINE FILTER | |
| L012 | 1-424-154-11 | COIL, LINE FILTER | |
| L013 | 1-424-154-11 | COIL, LINE FILTER | |
| L014 | 1-424-154-11 | COIL, LINE FILTER | |
| L015 | 1-424-154-11 | COIL, LINE FILTER | |
| L016 | 1-424-154-11 | COIL, LINE FILTER | |
| L018 | 1-543-813-21 | BEAD, FERRITE | |
| L026 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L027 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L028 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L029 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L030 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L031 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L032 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L033 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L034 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L035 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L036 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L037 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L038 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L039 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L040 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| L041 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L042 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L043 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L044 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L045 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L046 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L047 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L048 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L049 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L050 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L051 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L052 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L053 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L054 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L055 | 1-543-813-21 | BEAD, FERRITE | |
| L056 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L101 | 1-408-417-00 | INDUCTOR 47uH | |
| L102 | 1-408-413-00 | INDUCTOR 22uH | |
| L103 | 1-408-413-00 | INDUCTOR 22uH | |
| L104 | 1-408-417-00 | INDUCTOR 47uH | |
| L105 | 1-424-090-11 | COIL, LINE FILTER | |
| L107 | 1-424-090-11 | COIL, LINE FILTER | |
| L108 | 1-408-414-00 | INDUCTOR 27uH | |
| L109 | 1-408-415-00 | INDUCTOR 33uH | |
| L110 | 1-408-412-00 | INDUCTOR 18uH | |
| L120 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L121 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L122 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L123 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L124 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L125 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L130 | 1-543-813-21 | BEAD, FERRITE | |
| L500 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L501 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L502 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L503 | 1-543-775-11 | FILTER, EMI | |
| L504 | 1-543-775-11 | FILTER, EMI | |
| L505 | 1-543-775-11 | FILTER, EMI | |
| L506 | 1-543-775-11 | FILTER, EMI | |
| L507 | 1-543-775-11 | FILTER, EMI | |
| L901 | 1-424-090-11 | COIL, LINE FILTER | |

< TRANSISTOR >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| Q001 | 8-729-119-48 | TRANSISTOR 2SA1464-Y13 | |
| Q002 | 8-729-119-48 | TRANSISTOR 2SA1464-Y13 | |
| Q003 | 8-729-140-47 | TRANSISTOR 2SC3735-L-B35 | |
| Q004 | 8-729-140-47 | TRANSISTOR 2SC3735-L-B35 | |
| Q005 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q006 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q007 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q008 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q009 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q010 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q011 | 8-729-140-47 | TRANSISTOR 2SC3735-L-B35 | |
| Q012 | 8-729-140-47 | TRANSISTOR 2SC3735-L-B35 | |
| Q013 | 8-729-140-47 | TRANSISTOR 2SC3735-L-B35 | |
| Q101 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q102 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q103 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q104 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q105 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q106 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q107 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q108 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q109 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q110 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q111 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q112 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q113 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q114 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q115 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q116 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q118 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q119 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q121 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q122 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q123 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q124 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q125 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q126 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q127 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q128 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q129 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q130 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q131 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q132 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q133 | 8-729-100-66 | TRANSISTOR 2SC1623 | |

< RESISTOR >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| R016 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W | |
| R017 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W | |
| R018 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W | |
| R043 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W | |
| R044 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W | |
| R045 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W | |
| R046 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W | |
| R047 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W | |
| R048 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W | |

When indicating parts by reference number, please include the board name.

# CB-30

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R049 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R050 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R051 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R052 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R053 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R054 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R055 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R056 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R057 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R058 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R059 | 1-216-659-11 | METAL CHIP | 2.2K | 0.5% | 1/10W |
| R060 | 1-216-659-11 | METAL CHIP | 2.2K | 0.5% | 1/10W |
| R061 | 1-216-659-11 | METAL CHIP | 2.2K | 0.5% | 1/10W |
| R062 | 1-216-659-11 | METAL CHIP | 2.2K | 0.5% | 1/10W |
| R063 | 1-216-659-11 | METAL CHIP | 2.2K | 0.5% | 1/10W |
| R064 | 1-216-659-11 | METAL CHIP | 2.2K | 0.5% | 1/10W |
| R065 | 1-216-659-11 | METAL CHIP | 2.2K | 0.5% | 1/10W |
| R066 | 1-216-659-11 | METAL CHIP | 2.2K | 0.5% | 1/10W |
| R067 | 1-216-659-11 | METAL CHIP | 2.2K | 0.5% | 1/10W |
| R068 | 1-216-659-11 | METAL CHIP | 2.2K | 0.5% | 1/10W |
| R069 | 1-216-659-11 | METAL CHIP | 2.2K | 0.5% | 1/10W |
| R070 | 1-216-699-11 | METAL CHIP | 100K | 0.5% | 1/10W |
| R071 | 1-216-699-11 | METAL CHIP | 100K | 0.5% | 1/10W |
| R072 | 1-216-699-11 | METAL CHIP | 100K | 0.5% | 1/10W |
| R073 | 1-216-699-11 | METAL CHIP | 100K | 0.5% | 1/10W |
| R074 | 1-216-699-11 | METAL CHIP | 100K | 0.5% | 1/10W |
| R075 | 1-216-699-11 | METAL CHIP | 100K | 0.5% | 1/10W |
| R076 | 1-216-699-11 | METAL CHIP | 100K | 0.5% | 1/10W |
| R077 | 1-216-699-11 | METAL CHIP | 100K | 0.5% | 1/10W |
| R078 | 1-216-699-11 | METAL CHIP | 100K | 0.5% | 1/10W |
| R079 | 1-216-699-11 | METAL CHIP | 100K | 0.5% | 1/10W |
| R080 | 1-216-699-11 | METAL CHIP | 100K | 0.5% | 1/10W |
| R081 | 1-216-699-11 | METAL CHIP | 100K | 0.5% | 1/10W |
| R082 | 1-216-699-11 | METAL CHIP | 100K | 0.5% | 1/10W |
| R083 | 1-216-699-11 | METAL CHIP | 100K | 0.5% | 1/10W |
| R084 | 1-216-699-11 | METAL CHIP | 100K | 0.5% | 1/10W |
| R085 | 1-216-699-11 | METAL CHIP | 100K | 0.5% | 1/10W |
| R086 | 1-216-699-11 | METAL CHIP | 100K | 0.5% | 1/10W |
| R087 | 1-216-699-11 | METAL CHIP | 100K | 0.5% | 1/10W |
| R088 | 1-216-699-11 | METAL CHIP | 100K | 0.5% | 1/10W |
| R089 | 1-216-699-11 | METAL CHIP | 100K | 0.5% | 1/10W |
| R090 | 1-216-699-11 | METAL CHIP | 100K | 0.5% | 1/10W |
| R091 | 1-216-699-11 | METAL CHIP | 100K | 0.5% | 1/10W |
| R092 | 1-216-699-11 | METAL CHIP | 100K | 0.5% | 1/10W |
| R093 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R094 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R095 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R096 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R097 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R098 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R101 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R102 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R103 | 1-216-045-00 | METAL CHIP | 680 | 5% | 1/10W |
| R104 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R105 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R106 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R107 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R108 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R109 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R110 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R111 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R112 | 1-216-055-00 | METAL CHIP | 1.8K | 5% | 1/10W |
| R113 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R114 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R115 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R116 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R117 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R118 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R119 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W |
| R120 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R121 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R122 | 1-216-067-00 | METAL CHIP | 5.6K | 5% | 1/10W |
| R123 | 1-216-083-00 | METAL CHIP | 27K | 5% | 1/10W |
| R124 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R125 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R126 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W |
| R127 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R128 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R129 | 1-216-029-00 | METAL CHIP | 150 | 5% | 1/10W |
| R130 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R131 | 1-216-059-00 | METAL CHIP | 2.7K | 5% | 1/10W |
| R132 | 1-216-059-00 | METAL CHIP | 2.7K | 5% | 1/10W |
| R133 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R134 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R135 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R136 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R137 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R138 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R139 | 1-216-105-00 | METAL CHIP | 220K | 5% | 1/10W |
| R140 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R141 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R142 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R143 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R144 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R145 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R146 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R147 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R148 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R152 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R153 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R154 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R155 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R156 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R157 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R158 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R159 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R160 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R161 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R162 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R163 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R164 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R165 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R166 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R167 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R168 | 1-216-748-11 | METAL CHIP | 39K | 5% | 1/10W |
| R169 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R179 | 1-216-679-11 | METAL CHIP | 15K | 0.5% | 1/10W |
| R180 | 1-216-679-11 | METAL CHIP | 15K | 0.5% | 1/10W |
| R181 | 1-216-084-00 | METAL GLAZE | 30K | 5% | 1/10W |
| R182 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R183 | 1-216-083-00 | METAL CHIP | 27K | 5% | 1/10W |
| R184 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R185 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R186 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R187 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R188 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R189 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R190 | 1-216-080-00 | METAL CHIP | 20K | 5% | 1/10W |
| R191 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R192 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R193 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R194 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R195 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R196 | 1-216-075-00 | METAL CHIP | 12K | 5% | 1/10W |
| R197 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R198 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R199 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R200 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R201 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R202 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R203 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R204 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R205 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R206 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R207 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R208 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R209 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R210 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R211 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R212 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R213 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R214 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R215 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R216 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R217 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R219 | 1-216-047-00 | METAL CHIP | 820 | 5% | 1/10W |
| R220 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R221 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R222 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R223 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R224 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W |
| R225 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W |
| R226 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R227 | 1-216-031-00 | METAL CHIP | 180 | 5% | 1/10W |
| R228 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R229 | 1-216-031-00 | METAL CHIP | 180 | 5% | 1/10W |
| R230 | 1-216-043-00 | METAL CHIP | 560 | 5% | 1/10W |
| R232 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R234 | 1-216-055-00 | METAL CHIP | 1.8K | 5% | 1/10W |
| R235 | 1-216-071-00 | METAL CHIP | 8.2K | 5% | 1/10W |
| R236 | 1-216-067-00 | METAL CHIP | 5.6K | 5% | 1/10W |
| R237 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R238 | 1-216-045-00 | METAL CHIP | 680 | 5% | 1/10W |
| R239 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R240 | 1-216-045-00 | METAL CHIP | 680 | 5% | 1/10W |
| R241 | 1-216-040-00 | METAL CHIP | 430 | 5% | 1/10W |
| R242 | 1-216-043-00 | METAL CHIP | 560 | 5% | 1/10W |
| R243 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R244 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R245 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R246 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R247 | 1-216-055-00 | METAL CHIP | 1.8K | 5% | 1/10W |
| R248 | 1-216-047-00 | METAL CHIP | 820 | 5% | 1/10W |
| R249 | 1-216-047-00 | METAL CHIP | 820 | 5% | 1/10W |
| R250 | 1-216-645-11 | METAL CHIP | 560 | 0.5% | 1/10W |
| R251 | 1-216-645-11 | METAL CHIP | 560 | 0.5% | 1/10W |
| R252 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R255 | 1-216-047-00 | METAL CHIP | 820 | 5% | 1/10W |
| R280 | 1-216-045-00 | METAL CHIP | 680 | 5% | 1/10W |
| R281 | 1-216-048-00 | METAL CHIP | 910 | 5% | 1/10W |
| R282 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R301 | 1-216-039-00 | METAL CHIP | 390 | 5% | 1/10W |
| R302 | 1-216-063-00 | METAL CHIP | 3.9K | 5% | 1/10W |
| R303 | 1-216-063-00 | METAL CHIP | 3.9K | 5% | 1/10W |
| R304 | 1-216-039-00 | METAL CHIP | 390 | 5% | 1/10W |
| R305 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |

When indicating parts by reference number, please include the board name.

## CB-30

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R306 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R307 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R308 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R309 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R310 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R311 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R312 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R313 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R314 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R315 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R317 | 1-216-043-00 | METAL CHIP | 560 | 5% | 1/10W |
| R318 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R319 | 1-216-055-00 | METAL CHIP | 1.8K | 5% | 1/10W |
| R320 | 1-216-043-00 | METAL CHIP | 560 | 5% | 1/10W |
| R321 | 1-216-055-00 | METAL CHIP | 1.8K | 5% | 1/10W |
| R322 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R323 | 1-216-043-00 | METAL CHIP | 560 | 5% | 1/10W |
| R324 | 1-216-055-00 | METAL CHIP | 1.8K | 5% | 1/10W |
| R325 | 1-216-043-00 | METAL CHIP | 560 | 5% | 1/10W |
| R326 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R327 | 1-216-055-00 | METAL CHIP | 1.8K | 5% | 1/10W |
| R328 | 1-216-043-00 | METAL CHIP | 560 | 5% | 1/10W |
| R329 | 1-216-055-00 | METAL CHIP | 1.8K | 5% | 1/10W |
| R330 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R331 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R332 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R333 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R334 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R335 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R336 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R337 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R342 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R343 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R344 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R345 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R346 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R347 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R360 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R361 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R362 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R363 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R364 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R365 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R366 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R367 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R502 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W |
| R510 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R511 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R512 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R513 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R514 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R515 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R516 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R517 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R518 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R519 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R520 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R521 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R522 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R523 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R524 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R525 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R526 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R527 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R528 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R529 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R530 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R531 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R532 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R533 | 1-216-017-00 | METAL CHIP | 47 | 5% | 1/10W |
| R534 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R535 | 1-216-017-00 | METAL CHIP | 47 | 5% | 1/10W |
| R536 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R537 | 1-216-017-00 | METAL CHIP | 47 | 5% | 1/10W |
| R909 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R910 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R999 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| | | < VARIABLE RESISTOR > | | | |
| RV001 | 1-230-521-11 | RES. ADJ. METAL 2.2K (EDIT PHASE ADJ) | | | |
| RV101 | 1-230-522-11 | RES. ADJ. METAL 4.7K (R-Y LEVEL) | | | |
| RV102 | 1-230-522-11 | RES. ADJ. METAL 4.7K (Y LEVEL) | | | |
| RV103 | 1-230-522-11 | RES. ADJ. METAL 4.7K (B-Y LEVEL) | | | |
| RV104 | 1-230-519-11 | RES. ADJ. METAL 470 (CARRIER BALANCE) | | | |
| RV105 | 1-230-519-11 | RES. ADJ. METAL 470 (CARRIER BALANCE) | | | |
| RV106 | 1-230-523-11 | RES. ADJ. METAL 10K (BURST LEVEL) | | | |
| RV107 | 1-230-523-11 | RES. ADJ. METAL 10K (BURST LEVEL) | | | |
| RV108 | 1-230-520-11 | RES. ADJ. METAL 1K (CHROMA LEVEL) | | | |
| RV109 | 1-230-521-11 | RES. ADJ. METAL 2.2K (CHB POSITION) | | | |
| RV110 | 1-230-521-11 | RES. ADJ. METAL 2.2K (CHA POSITION) | | | |
| | | < CRYSTAL > | | | |
| X001 | 1-567-772-11 | VIBRATOR, CERAMIC (4.19MHz) | | | |
| X003 | 1-567-252-11 | VIBRATOR, CRYSTAL (16MHz) | | | |
| X005 | 1-567-772-11 | VIBRATOR, CERAMIC (4.19MHz) | | | |
| X101 | 1-567-733-11 | VIBRATOR, CRYSTAL (17.734MHz) | | | |
| X102 | 1-527-723-00 | VIBRATOR, CRYSTAL (14.1875MHz) | | | |
| X103 | 1-567-733-11 | VIBRATOR, CRYSTAL (4 FSC) | | | |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | * A-7062-545-A | CM-12E BOARD, COMPLETE<br>**********************<br>(Ref. No 7,000 Series) | |
| | * 1-533-189-11 | HOLDER, FUSE | |
| | * 3-682-602-00 | CASE (MAIN), SHIELD, CL | |
| | 7-685-646-79 | SCREW +BVTP 3X8 TYPE2 IT-3 | |
| | 7-685-646-79 | SCREW +BVTP 3X8 TYPE2 | |
| | | < CAPACITOR > | |
| C005 | 1-161-051-00 | CERAMIC 0.01uF 10% 50V | |
| C006 | 1-124-120-11 | ELECT 220uF 20% 25V | |
| C007 | 1-161-051-00 | CERAMIC 0.01uF 10% 50V | |
| C008 | 1-124-589-11 | ELECT 47uF 20% 16V | |
| C009 | 1-161-051-00 | CERAMIC 0.01uF 10% 50V | |
| C010 | 1-161-051-00 | CERAMIC 0.01uF 10% 50V | |
| C011 | 1-161-051-00 | CERAMIC 0.01uF 10% 50V | |
| C012 | 1-124-589-11 | ELECT 47uF 20% 16V | |
| C013 | 1-124-589-11 | ELECT 47uF 20% 16V | |
| C014 | 1-161-051-00 | CERAMIC 0.01uF 10% 50V | |
| C015 | 1-161-051-00 | CERAMIC 0.01uF 10% 50V | |
| C016 | 1-124-589-11 | ELECT 47uF 20% 16V | |
| C017 | 1-161-051-00 | CERAMIC 0.01uF 10% 50V | |
| C018 | 1-124-589-11 | ELECT 47uF 20% 16V | |
| C019 | 1-161-051-00 | CERAMIC 0.01uF 10% 50V | |
| C020 | 1-124-589-11 | ELECT 47uF 20% 16V | |
| C022 | 1-124-589-11 | ELECT 47uF 20% 16V | |
| C023 | 1-161-051-00 | CERAMIC 0.01uF 10% 50V | |
| C024 | 1-161-051-00 | CERAMIC 0.01uF 10% 50V | |
| C025 | 1-161-051-00 | CERAMIC 0.01uF 10% 50V | |
| C026 | 1-161-051-00 | CERAMIC 0.01uF 10% 50V | |
| C027 | 1-161-051-00 | CERAMIC 0.01uF 10% 50V | |
| C028 | 1-161-051-00 | CERAMIC 0.01uF 10% 50V | |
| C029 | 1-161-051-00 | CERAMIC 0.01uF 10% 50V | |
| C701 | 1-124-147-00 | ELECT 47uF 20% 25V | |
| C702 | 1-124-120-11 | ELECT 220uF 20% 25V | |
| C703 | 1-161-051-00 | CERAMIC 0.01uF 10% 50V | |
| C704 | 1-161-051-00 | CERAMIC 0.01uF 10% 50V | |
| C705 | 1-124-120-11 | ELECT 220uF 20% 25V | |
| C706 | 1-161-051-00 | CERAMIC 0.01uF 10% 50V | |
| C707 | 1-126-103-11 | ELECT 470uF 20% 16V | |
| C708 | 1-102-114-00 | CERAMIC 470PF 10% 50V | |
| C709 | 1-124-120-11 | ELECT 220uF 20% 25V | |
| C710 | 1-161-051-00 | CERAMIC 0.01uF 10% 50V | |
| C712 | 1-126-103-11 | ELECT 470uF 20% 16V | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | < CONNECTOR > | |
| CN001 | * 1-560-895-00 | PIN, CONNECTOR 7P | |
| CN002 | 1-506-487-11 | CONNECTOR 8P, MALE | |
| CN003 | 1-506-490-21 | PIN, CONNECTOR 11P | |
| CN004 | 1-506-473-11 | CONNECTOR 8P, MALE | |
| CN005 | 1-506-485-11 | CONNECTOR 6P, MALE | |
| CN006 | 1-506-486-11 | PIN, CONNECTOR 7P | |
| CN007 | 1-506-473-11 | CONNECTOR 8P, MALE | |
| CN008 | 1-506-482-11 | CONNECTOR 3P, MALE | |
| CN009 | 1-506-470-11 | CONNECTOR 5P, MALE | |
| CN010 | 1-506-472-11 | CONNECTOR 7P, MALE | |
| CN011 | 1-506-472-11 | CONNECTOR 7P, MALE | |
| CN012 | 1-506-471-11 | CONNECTOR 6P, MALE | |
| CN013 | 1-506-473-11 | CONNECTOR 8P, MALE | |
| CN014 | 1-506-470-11 | CONNECTOR 5P, MALE | |
| CN015 | 1-506-468-11 | CONNECTOR 3P, MALE | |
| CN016 | 1-506-468-11 | CONNECTOR 3P, MALE | |
| CN017 | 1-506-482-11 | CONNECTOR 3P, MALE | |
| CN018 | 1-506-481-11 | CONNECTOR 2P, MALE | |
| CN019 | 1-506-485-11 | CONNECTOR 6P, MALE | |
| CN020 | 1-506-490-21 | PIN, CONNECTOR 11P | |
| CN021 | 1-506-472-11 | CONNECTOR 7P, MALE | |
| CN022 | 1-506-471-11 | CONNECTOR 6P, MALE | |
| CN023 | 1-506-467-11 | CONNECTOR 2P, MALE | |
| | | < DIODE > | |
| D701 | 8-719-200-91 | DIODE 11EQS10 | |
| D702 | 8-719-911-19 | DIODE 1SS119 | |
| | | < RESISTOR BLOCK > | |
| IB001 | 1-235-359-11 | BLOCK, RESISTOR 47KX4 | |
| IB002 | 1-235-359-11 | BLOCK, RESISTOR 47KX4 | |
| | | < IC > | |
| IC001 | 8-752-816-87 | IC CXP5056H-SAX21475 | |
| IC002 | 8-759-913-41 | IC S-8054ALB | |
| IC003 | 8-759-917-18 | IC SN74HCU04N | |
| IC004 | 8-759-916-59 | IC TC74HC193P | |
| IC005 | 8-759-900-XX | IC MC74HC74N | |
| IC006 | 8-759-001-23 | IC TC74HC109P | |
| IC007 | 8-759-001-23 | IC TC74HC109P | |
| IC008 | 8-759-203-63 | IC TC74HC4017P | |
| IC009 | 8-759-978-64 | IC TLC1541IN | |
| IC010 | 8-752-321-64 | IC CXD1067P | |
| IC011 | 8-759-916-71 | IC SN74HC244N | |
| IC012 | 8-759-938-68 | IC CXD1095Q | |
| IC013 | 8-759-938-68 | IC CXD1095Q | |
| IC014 | 8-759-900-04 | IC SN74LS04N | |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| IC015 | 8-759-900-05 | IC SN74LS05N | |
| IC016 | 8-759-916-14 | IC SN74HC04N | |
| IC701 | 8-759-604-35 | IC uPC78M05 | |
| IC702 | 8-759-013-25 | IC MC34063M | |
| | | < COIL > | |
| L001 | 1-410-667-31 | INDUCTOR 22uH | |
| L002 | 1-410-667-31 | INDUCTOR 22uH | |
| L003 | 1-410-667-31 | INDUCTOR 22uH | |
| L004 | 1-410-667-31 | INDUCTOR 22uH | |
| L005 | 1-410-667-31 | INDUCTOR 22uH | |
| L701 | 1-408-858-00 | COIL, CHOKE | |
| | | < TRANSISTOR > | |
| Q001 | 8-729-190-12 | TRANSISTOR 2SC2901 | |
| Q002 | 8-729-190-12 | TRANSISTOR 2SC2901 | |
| Q701 | 8-729-900-74 | TRANSISTOR DTC143TS | |
| Q702 | 8-729-141-83 | TRANSISTOR 2SB1094-LK | |
| | | < RESISTOR > | |
| R001 | 1-249-425-11 | CARBON 4.7K 5% 1/4W | |
| R002 | 1-249-425-11 | CARBON 4.7K 5% 1/4W | |
| R003 | 1-249-425-11 | CARBON 4.7K 5% 1/4W | |
| R004 | 1-249-425-11 | CARBON 4.7K 5% 1/4W | |
| R005 | 1-249-425-11 | CARBON 4.7K 5% 1/4W | |
| R006 | 1-247-903-00 | CARBON 1M 5% 1/4W | |
| R007 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R008 | 1-249-414-11 | CARBON 560 5% 1/4W | |
| R009 | 1-249-420-11 | CARBON 1.8K 5% 1/4W | |
| R010 | 1-249-414-11 | CARBON 560 5% 1/4W | |
| R011 | 1-249-420-11 | CARBON 1.8K 5% 1/4W | |
| R012 | 1-249-414-11 | CARBON 560 5% 1/4W | |
| R013 | 1-249-420-11 | CARBON 1.8K 5% 1/4W | |
| R014 | 1-249-414-11 | CARBON 560 5% 1/4W | |
| R015 | 1-249-414-11 | CARBON 560 5% 1/4W | |
| R016 | 1-249-420-11 | CARBON 1.8K 5% 1/4W | |
| R017 | 1-249-420-11 | CARBON 1.8K 5% 1/4W | |
| R018 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R019 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R020 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R021 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R022 | 1-249-441-11 | CARBON 100K 5% 1/4W | |
| R701 | 1-249-416-11 | CARBON 820 5% 1/4W | |
| R702 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R703 | 1-249-423-11 | CARBON 3.3K 5% 1/4W | |
| R704 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R705 | 1-249-443-11 | CARBON 0.47 5% 1/4W | F |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | < VARIABLE RESISTOR > | |
| RV701 | 1-228-989-00 | RES, ADJ, METAL470 | |
| | | < CRYSTAL > | |
| X001 | 1-567-772-11 | VIBRATOR, CERAMIC (4.19MHz) | |

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* A-7062-546-A CR-17 BOARD, COMPLETE
*********************
(Ref.No 7,000 Series)

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | 1-506-481-11 | CONNECTOR 2P, MALE | |
| | 1-506-482-11 | CONNECTOR 3P, MALE | |
| | 2-131-285-01 | SPRING | |
| | 2-131-287-01 | SLIDER (LARGE) | |
| | 2-131-298-01 | BASE | |
| | 2-135-404-01 | CAP (LARGE) | |
| | * 3-670-095-00 | HOLDER, LED | |
| | 3-749-292-01 | SHEET (LARGE), FILTER | |
| | | < CAPACITOR > | |
| C101 | 1-124-242-00 | ELECT 33uF 20% 25V | |
| C102 | 1-124-242-00 | ELECT 33uF 20% 25V | |
| C103 | 1-124-242-00 | ELECT 33uF 20% 25V | |
| C104 | 1-124-242-00 | ELECT 33uF 20% 25V | |
| C105 | 1-161-051-00 | CERAMIC 0.01uF 10% 50V | |
| C106 | 1-161-051-00 | CERAMIC 0.01uF 10% 50V | |
| | | < CONNECTOR > | |
| CN102 | 1-506-485-11 | CONNECTOR 6P, MALE | |
| CN103 | 1-506-487-11 | CONNECTOR 8P, MALE | |
| CN104 | 1-506-484-11 | CONNECTOR 5P, MALE | |
| CN105 | 1-506-489-11 | CONNECTOR 10P, MALE | |
| | | < DIODE > | |
| D101 | 8-719-974-72 | DIODE LT4203H | |
| D102 | 8-719-974-72 | DIODE LT4203H | |
| D103 | 8-719-974-72 | DIODE LT4203H | |
| D104 | 8-719-974-72 | DIODE LT4203H | |
| D105 | 8-719-974-72 | DIODE LT4203H | |
| D106 | 8-719-974-72 | DIODE LT4203H | |
| D107 | 8-719-940-80 | DIODE SLR-34PC3 | |
| D108 | 8-719-974-72 | DIODE LT4203H | |
| D109 | 8-719-974-72 | DIODE LT4203H | |
| D110 | 8-719-974-72 | DIODE LT4203H | |
| D111 | 8-719-974-72 | DIODE LT4203H | |
| D112 | 8-719-974-72 | DIODE LT4203H | |
| D113 | 8-719-974-72 | DIODE LT4203H | |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| D114 | 8-719-974-72 | DIODE LT4203H | |
| D115 | 8-719-974-72 | DIODE LT4203H | |
| D116 | 8-719-974-72 | DIODE LT4203H | |
| D117 | 8-719-974-72 | DIODE LT4203H | |
| D118 | 8-719-974-72 | DIODE LT4203H | |
| D119 | 8-719-974-72 | DIODE LT4203H | |
| D120 | 8-719-974-72 | DIODE LT4203H | |
| D121 | 8-719-974-72 | DIODE LT4203H | |
| D122 | 8-719-974-72 | DIODE LT4203H | |
| D123 | 8-719-974-72 | DIODE LT4203H | |
| D124 | 8-719-974-72 | DIODE LT4203H | |
| D125 | 8-719-974-72 | DIODE LT4203H | |
| D126 | 8-719-974-72 | DIODE LT4203H | |
| D127 | 8-719-974-72 | DIODE LT4203H | |
| D128 | 8-719-974-72 | DIODE LT4203H | |
| D129 | 8-719-911-19 | DIODE 1SS119 | |
| | | < IC > | |
| IC101 | *8-759-938-68 | IC CXD1095Q | |
| IC102 | 8-759-920-44 | IC MB74LS07 | |
| IC103 | 8-759-920-44 | IC MB74LS07 | |
| IC104 | 8-759-920-44 | IC MB74LS07 | |
| IC105 | 8-759-920-44 | IC MB74LS07 | |
| IC106 | 8-759-920-44 | IC MB74LS07 | |
| | | < RESISTOR > | |
| R101 | 1-249-409-11 | CARBON 220 5% 1/4W | |
| R102 | 1-249-409-11 | CARBON 220 5% 1/4W | |
| R103 | 1-249-409-11 | CARBON 220 5% 1/4W | |
| R104 | 1-249-409-11 | CARBON 220 5% 1/4W | |
| R105 | 1-249-409-11 | CARBON 220 5% 1/4W | |
| R106 | 1-249-409-11 | CARBON 220 5% 1/4W | |
| R107 | 1-249-407-11 | CARBON 150 5% 1/4W | |
| R108 | 1-249-409-11 | CARBON 220 5% 1/4W | |
| R109 | 1-249-409-11 | CARBON 220 5% 1/4W | |
| R110 | 1-249-409-11 | CARBON 220 5% 1/4W | |
| R111 | 1-249-409-11 | CARBON 220 5% 1/4W | |
| R112 | 1-249-409-11 | CARBON 220 5% 1/4W | |
| R113 | 1-249-409-11 | CARBON 220 5% 1/4W | |
| R114 | 1-249-409-11 | CARBON 220 5% 1/4W | |
| R115 | 1-249-409-11 | CARBON 220 5% 1/4W | |
| R116 | 1-249-409-11 | CARBON 220 5% 1/4W | |
| R117 | 1-249-409-11 | CARBON 220 5% 1/4W | |
| R118 | 1-249-409-11 | CARBON 220 5% 1/4W | |
| R119 | 1-249-409-11 | CARBON 220 5% 1/4W | |
| R120 | 1-249-409-11 | CARBON 220 5% 1/4W | |
| R121 | 1-249-409-11 | CARBON 220 5% 1/4W | |
| R122 | 1-249-409-11 | CARBON 220 5% 1/4W | |
| R123 | 1-249-409-11 | CARBON 220 5% 1/4W | |
| R124 | 1-249-409-11 | CARBON 220 5% 1/4W | |
| R125 | 1-249-409-11 | CARBON 220 5% 1/4W | |
| R126 | 1-249-409-11 | CARBON 220 5% 1/4W | |
| R127 | 1-249-409-11 | CARBON 220 5% 1/4W | |
| R128 | 1-249-409-11 | CARBON 220 5% 1/4W | |
| R129 | 1-249-419-11 | CARBON 1.5K 5% 1/4W | |
| R130 | 1-249-420-11 | CARBON 1.8K 5% 1/4W | |
| R131 | 1-249-423-11 | CARBON 3.3K 5% 1/4W | |
| R132 | 1-249-428-11 | CARBON 8.2K 5% 1/4W | |
| R133 | 1-249-419-11 | CARBON 1.5K 5% 1/4W | |
| R134 | 1-249-420-11 | CARBON 1.8K 5% 1/4W | |
| R135 | 1-249-437-11 | CARBON 47K 5% 1/4W | |
| | | < VARIABLE RESISTOR > | |
| RV101 | 1-238-454-11 | RES, VAR, SLIDE 10K (INTERVAL) | |
| | | < SWITCH > | |
| SW001 | 1-554-303-21 | SWITCH, TACTILE (NORMAL) | |
| SW002 | 1-554-303-21 | SWITCH, TACTILE (NORMAL) | |
| SW003 | 1-554-303-21 | SWITCH, TACTILE (NORMAL) | |
| SW004 | 1-554-303-21 | SWITCH, TACTILE (ZOOM +) | |
| SW005 | 1-554-303-21 | SWITCH, TACTILE (MONO TONE) | |
| SW006 | 1-554-303-21 | SWITCH, TACTILE (Y NR) | |
| SW007 | 1-554-303-21 | SWITCH, TACTILE (POWER) | |
| SW008 | 1-554-303-21 | SWITCH, TACTILE (MULTI) | |
| SW009 | 1-554-303-21 | SWITCH, TACTILE (STILL) | |
| SW010 | 1-554-303-21 | SWITCH, TACTILE (BIT DETECT) | |
| SW011 | 1-554-303-21 | SWITCH, TACTILE (ZOOM -) | |
| SW012 | 1-554-303-21 | SWITCH, TACTILE (COLOURING A) | |
| SW013 | 1-554-303-21 | SWITCH, TACTILE (C NR) | |
| SW014 | 1-554-303-21 | SWITCH, TACTILE (POSITION) | |
| SW015 | 1-554-303-21 | SWITCH, TACTILE (P in P) | |
| SW016 | 1-554-303-21 | SWITCH, TACTILE (STROBE) | |
| SW017 | 1-554-303-21 | SWITCH, TACTILE (NEGATIVE) | |
| SW018 | 1-554-303-21 | SWITCH, TACTILE (MOSAIC +) | |
| SW019 | 1-554-303-21 | SWITCH, TACTILE (SOLARIZATION) | |
| SW020 | 1-554-303-21 | SWITCH, TACTILE (FRAME) | |
| SW021 | 1-554-303-21 | SWITCH, TACTILE (VENHANCE) | |
| SW022 | 1-554-303-21 | SWITCH, TACTILE (TITLE INDEX) | |
| SW023 | 1-554-303-21 | SWITCH, TACTILE (BYPASS) | |
| SW024 | 1-554-303-21 | SWITCH, TACTILE (SOFT FOCUS) | |
| SW025 | 1-554-303-21 | SWITCH, TACTILE (MOSAIC -) | |
| SW026 | 1-554-303-21 | SWITCH, TACTILE (COLOUR CORRECT) | |
| SW027 | 1-554-303-21 | SWITCH, TACTILE (RANDOM) | |
| SW028 | 1-554-303-21 | SWITCH, TACTILE (AFTER IMAGE) | |

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When indicating parts by reference number, please include the board name.

# CR-18

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | * A-7051-484-A | CR-18 BOARD, COMPLETE<br>*********************<br>(Ref. No 7,000 Series) | |
| | 2-131-285-01 | SPRING | |
| | 2-131-286-01 | SLIDER (SMALL) | |
| | 2-131-287-01 | SLIDER (LARGE) | |
| | * 2-131-293-01 | HOLDER, LED, 11 GANG | |
| | 2-131-298-01 | BASE | |
| | 2-135-403-01 | CAP (SMALL) | |
| | 2-135-404-01 | CAP (LARGE) | |
| | 2-135-449-01 | LOUVER, LED | |
| | 3-749-292-01 | SHEET (LARGE), FILTER | |
| | 3-940-908-01 | SHEET (SMALL), FILTER | |

< CAPACITOR >

| Ref. No. | Part No. | Description | | | |
|---|---|---|---|---|---|
| C301 | 1-124-242-00 | ELECT | 33uF | 20% | 25V |
| C302 | 1-124-242-00 | ELECT | 33uF | 20% | 25V |
| C303 | 1-124-242-00 | ELECT | 33uF | 20% | 25V |
| C304 | 1-124-242-00 | ELECT | 33uF | 20% | 25V |

< CONNECTOR >

| Ref. No. | Part No. | Description |
|---|---|---|
| CN301 | 1-506-485-11 | CONNECTOR 6P, MALE |
| CN302 | 1-506-486-11 | PIN, CONNECTOR 7P |
| CN303 | 1-506-486-11 | PIN, CONNECTOR 7P |
| CN304 | 1-506-484-11 | CONNECTOR 5P, MALE |
| CN305 | 1-506-482-11 | CONNECTOR 3P, MALE |
| CN306 | 1-506-486-11 | PIN, CONNECTOR 7P |
| CN307 | 1-506-490-21 | PIN, CONNECTOR 11P |
| CN551 | 1-506-481-11 | CONNECTOR 2P, MALE |
| CN552 | 1-506-481-11 | CONNECTOR 2P, MALE |

< DIODE >

| Ref. No. | Part No. | Description | |
|---|---|---|---|
| D301 | 8-719-974-72 | DIODE | LT4203H |
| D302 | 8-719-974-72 | DIODE | LT4203H |
| D303 | 8-719-974-72 | DIODE | LT4203H |
| D304 | 8-719-974-72 | DIODE | LT4203H |
| D307 | 8-719-974-72 | DIODE | LT4203H |
| D308 | 8-719-974-72 | DIODE | LT4203H |
| D309 | 8-719-974-72 | DIODE | LT4203H |
| D310 | 8-719-974-72 | DIODE | LT4203H |
| D311 | 8-719-974-72 | DIODE | LT4203H |
| D314 | 8-719-974-72 | DIODE | LT4203H |
| D315 | 8-719-974-72 | DIODE | LT4203H |
| D316 | 8-719-974-72 | DIODE | LT4203H |
| D326 | 8-719-974-73 | DIODE | LT4204H |
| D327 | 8-719-974-73 | DIODE | LT4204H |
| D328 | 8-719-974-73 | DIODE | LT4204H |
| D329 | 8-719-974-73 | DIODE | LT4204H |
| D330 | 8-719-901-05 | DIODE | GL-105R5 |
| D331 | 8-719-971-47 | DIODE | GL-106R5 |

< IC >

| Ref. No. | Part No. | Description | |
|---|---|---|---|
| IC301 | 8-759-920-44 | IC | MB74LS07 |
| IC302 | 8-759-920-44 | IC | MB74LS07 |
| IC303 | 8-759-920-44 | IC | MB74LS07 |
| IC304 | 8-759-920-44 | IC | MB74LS07 |
| IC305 | 8-759-920-44 | IC | MB74LS07 |

< RESISTOR >

| Ref. No. | Part No. | Description | | | |
|---|---|---|---|---|---|
| R301 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R303 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R305 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R308 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W |
| R309 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R311 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R313 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R317 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W |
| R318 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R319 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R320 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R321 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R324 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W |
| R325 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R326 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R329 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W |
| R330 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W |
| R331 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R332 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R333 | 1-249-420-11 | CARBON | 1.8K | 5% | 1/4W |
| R336 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R337 | 1-249-412-11 | CARBON | 390 | 5% | 1/4W |
| R338 | 1-249-412-11 | CARBON | 390 | 5% | 1/4W |
| R339 | 1-249-412-11 | CARBON | 390 | 5% | 1/4W |
| R340 | 1-249-412-11 | CARBON | 390 | 5% | 1/4W |
| R341 | 1-249-412-11 | CARBON | 390 | 5% | 1/4W |
| R342 | 1-249-412-11 | CARBON | 390 | 5% | 1/4W |
| R343 | 1-249-412-11 | CARBON | 390 | 5% | 1/4W |
| R344 | 1-249-412-11 | CARBON | 390 | 5% | 1/4W |
| R345 | 1-249-412-11 | CARBON | 390 | 5% | 1/4W |
| R346 | 1-249-412-11 | CARBON | 390 | 5% | 1/4W |
| R347 | 1-249-412-11 | CARBON | 390 | 5% | 1/4W |

< SWITCH >

| Ref. No. | Part No. | Description |
|---|---|---|
| SW301 | 1-554-303-21 | SWITCH, TACTILE ( 1 ) |
| SW302 | 1-554-303-21 | SWITCH, TACTILE ( 2 ) |
| SW303 | 1-554-303-21 | SWITCH, TACTILE ( 3 ) |
| SW304 | 1-554-303-21 | SWITCH, TACTILE ( 4 ) |
| SW307 | 1-554-303-21 | SWITCH, TACTILE (BACK COLOUR) |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| SW308 | 1-554-303-21 | SWITCH, TACTILE ( 1 ) | |
| SW309 | 1-554-303-21 | SWITCH, TACTILE ( 2 ) | |
| SW310 | 1-554-303-21 | SWITCH, TACTILE ( 3 ) | |
| SW311 | 1-554-303-21 | SWITCH, TACTILE ( 4 ) | |
| SW314 | 1-554-303-21 | SWITCH, TACTILE (BACK COLOUR) | |
| SW315 | 1-554-303-21 | SWITCH, TACTILE (EFFCT) | |
| SW316 | 1-554-303-21 | SWITCH, TACTILE (EFFCT) | |
| SW326 | 1-554-303-21 | SWITCH, TACTILE (VIDEO LINK) | |
| SW327 | 1-554-303-21 | SWITCH, TACTILE (LINE) | |
| SW328 | 1-554-303-21 | SWITCH, TACTILE ( A ) | |
| SW329 | 1-554-303-21 | SWITCH, TACTILE ( B ) | |

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* A-7051-484-A CR-19 BOARD, COMPLETE
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(Ref.No 7,000 Series)

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | 2-131-285-01 | SPRING | |
| | 2-131-286-01 | SLIDER (SMALL) | |
| | 2-131-287-01 | SLIDER (LARGE) | |
| | 2-131-298-01 | BASE | |
| | 2-135-403-01 | CAP (SMALL) | |
| | 2-135-404-01 | CAP (LARGE) | |
| | 3-749-292-01 | SHEET (LARGE), FILTER | |
| | 3-940-908-01 | SHEET (SMALL), FILTER | |

< CAPACITOR >

| Ref. No. | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| C401 | 1-124-242-00 | ELECT | 33uF | 20% | 25V | |
| C402 | 1-124-242-00 | ELECT | 33uF | 20% | 25V | |
| C403 | 1-124-242-00 | ELECT | 33uF | 20% | 25V | |
| C404 | 1-124-242-00 | ELECT | 33uF | 20% | 25V | |

< CONNECTOR >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| CN401 | 1-506-487-11 | CONNECTOR 8P, MALE | |
| CN402 | 1-506-485-11 | CONNECTOR 6P, MALE | |
| CN403 | 1-506-486-11 | PIN, CONNECTOR 7P | |
| CN404 | 1-506-487-11 | CONNECTOR 8P, MALE | |
| CN405 | 1-506-482-11 | CONNECTOR 3P, MALE | |
| CN406 | 1-506-490-21 | PIN, CONNECTOR 11P | |
| CN410 | 1-506-483-21 | CONNECTOR 4P, MALE | |
| CN412 | 1-506-482-11 | CONNECTOR 3P, MALE | |
| CN552 | 1-506-481-11 | CONNECTOR 2P, MALE | |
| CN553 | 1-506-481-11 | CONNECTOR 2P, MALE | |

< DIODE >

| Ref. No. | Part No. | Description | | Remark |
|---|---|---|---|---|
| D402 | 8-719-974-73 | DIODE | LT4204H | |
| D403 | 8-719-974-73 | DIODE | LT4204H | |
| D404 | 8-719-974-72 | DIODE | LT4203H | |
| D405 | 8-719-974-72 | DIODE | LT4203H | |
| D406 | 8-719-974-72 | DIODE | LT4203H | |
| D407 | 8-719-974-72 | DIODE | LT4203H | |
| D408 | 8-719-974-72 | DIODE | LT4203H | |
| D409 | 8-719-974-73 | DIODE | LT4204H | |
| D410 | 8-719-974-72 | DIODE | LT4203H | |
| D411 | 8-719-974-72 | DIODE | LT4203H | |
| D412 | 8-719-974-72 | DIODE | LT4203H | |
| D413 | 8-719-974-72 | DIODE | LT4203H | |
| D414 | 8-719-974-72 | DIODE | LT4203H | |
| D415 | 8-719-974-72 | DIODE | LT4203H | |
| D416 | 8-719-974-72 | DIODE | LT4203H | |
| D417 | 8-719-974-72 | DIODE | LT4203H | |
| D418 | 8-719-974-72 | DIODE | LT4203H | |
| D419 | 8-719-974-72 | DIODE | LT4203H | |
| D420 | 8-719-974-72 | DIODE | LT4203H | |
| D421 | 8-719-974-72 | DIODE | LT4203H | |
| D422 | 8-719-974-72 | DIODE | LT4203H | |
| D423 | 8-719-974-72 | DIODE | LT4203H | |
| D424 | 8-719-974-72 | DIODE | LT4203H | |
| D425 | 8-719-974-72 | DIODE | LT4203H | |
| D426 | 8-719-974-72 | DIODE | LT4203H | |
| D427 | 8-719-974-72 | DIODE | LT4203H | |
| D428 | 8-719-974-72 | DIODE | LT4203H | |
| D429 | 8-719-974-72 | DIODE | LT4203H | |
| D430 | 8-719-974-72 | DIODE | LT4203H | |
| D431 | 8-719-911-19 | DIODE | 1SS119 | |
| D432 | 8-719-911-19 | DIODE | 1SS119 | |
| D433 | 8-719-911-19 | DIODE | 1SS119 | |

< IC >

| Ref. No. | Part No. | Description | | Remark |
|---|---|---|---|---|
| IC401 | 8-759-920-44 | IC | MB74LS07 | |
| IC402 | 8-759-920-44 | IC | MB74LS07 | |
| IC403 | 8-759-920-44 | IC | MB74LS07 | |
| IC404 | 8-759-920-44 | IC | MB74LS07 | |
| IC405 | 8-759-920-44 | IC | MB74LS07 | |

< RESISTOR >

| Ref. No. | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| R402 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W | |
| R403 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R404 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R405 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R406 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R407 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R408 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R409 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R410 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R411 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R412 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R413 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R414 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |

When indicating parts by reference number, please include the board name.

## CR-19 CR-20

| Ref. No. | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| R415 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R416 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R417 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R418 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R419 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R420 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R421 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R422 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R423 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W | |
| R424 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R425 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W | |
| R426 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R427 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R428 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R429 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R430 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R433 | 1-249-420-11 | CARBON | 1.8K | 5% | 1/4W | |
| R434 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W | |
| R435 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W | |
| R436 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | |
| R437 | 1-249-420-11 | CARBON | 1.8K | 5% | 1/4W | |
| R438 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W | |
| R439 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W | |
| R440 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W | |
| R441 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W | |

< VARIABLE RESISTOR >

| Ref. No. | Part No. | Description |
|---|---|---|
| RV401 | 1-238-454-11 | RES, VAR, SLIDE 10K (AUTO SPEED) |

< SWITCH >

| Ref. No. | Part No. | Description |
|---|---|---|
| S402 | 1-554-303-21 | SWITCH, TACTILE (CUT) |
| S403 | 1-554-303-21 | SWITCH, TACTILE (START) |
| S404 | 1-554-303-21 | SWITCH, TACTILE (ONE-WAY) |
| S405 | 1-554-303-21 | SWITCH, TACTILE (REVERSE) |
| S406 | 1-554-303-21 | SWITCH, TACTILE (CHROMA KEY) |
| S407 | 1-554-303-21 | SWITCH, TACTILE (WIPE) |
| S408 | 1-554-303-21 | SWITCH, TACTILE (MIX) |
| S409 | 1-554-303-21 | SWITCH, TACTILE (STANDBY) |
| S410 | 1-554-303-21 | SWITCH, TACTILE (MOSAIC) |
| S411 | 1-554-303-21 | SWITCH, TACTILE (STROBE) |
| S412 | 1-554-303-21 | SWITCH, TACTILE (SOLARIZATION A) |
| S413 | 1-554-303-21 | SWITCH, TACTILE (SOLARIZATION B) |
| S414 | 1-554-303-21 | SWITCH, TACTILE (EXT KEY) |
| S415 | 1-554-303-21 | SWITCH, TACTILE ( ◧ ) |
| S416 | 1-554-303-21 | SWITCH, TACTILE ( ◨ ) |
| S417 | 1-554-303-21 | SWITCH, TACTILE ( ⬒ ) |
| S418 | 1-554-303-21 | SWITCH, TACTILE ( ⬓ ) |
| S419 | 1-554-303-21 | SWITCH, TACTILE ( ◙ ) |
| S420 | 1-554-303-21 | SWITCH, TACTILE ( ◈ ) |
| S421 | 1-554-303-21 | SWITCH, TACTILE ( ♡ ) |
| S422 | 1-554-303-21 | SWITCH, TACTILE ( ☆ ) |
| S423 | 1-554-303-21 | SWITCH, TACTILE ( ▤ ) |
| S424 | 1-554-303-21 | SWITCH, TACTILE ( ▦ ) |
| S425 | 1-554-303-21 | SWITCH, TACTILE ( ▚ ) |
| S426 | 1-554-303-21 | SWITCH, TACTILE (SQUARE ZOOM) |
| S427 | 1-554-303-21 | SWITCH, TACTILE (↩) |
| S428 | 1-554-303-21 | SWITCH, TACTILE (⇄) |
| S429 | 1-554-303-21 | SWITCH, TACTILE (RND 16) |
| S430 | 1-554-303-21 | SWITCH, TACTILE (EX PLOSION) |

< SWITCH >

| Ref. No. | Part No. | Description |
|---|---|---|
| SW431 | 1-570-145-11 | SWITCH, SLIDE (EXT LOCK) |
| SW432 | 1-572-374-11 | SWITCH, SLIDE (WIPE EDGE EXT KEYEDGE) |

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* A-7062-549-A CR-20 BOARD, COMPLETE
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(Ref. No 7,000 Series)

| Ref. No. | Part No. | Description |
|---|---|---|
| | 2-131-285-01 | SPRING |
| | 2-131-286-01 | SLIDER (SMALL) |
| | 2-131-298-01 | BASE |
| | 2-135-403-01 | CAP (SMALL) |
| | 3-940-908-01 | SHEET (SMALL), FILTER |

< CONNECTOR >

| Ref. No. | Part No. | Description |
|---|---|---|
| CN553 | 1-506-481-11 | CONNECTOR 2P, MALE |

< DIODE >

| Ref. No. | Part No. | Description | |
|---|---|---|---|
| D317 | 8-719-974-73 | DIODE | LT4204H |
| D318 | 8-719-974-73 | DIODE | LT4204H |
| D319 | 8-719-974-73 | DIODE | LT4204H |
| D320 | 8-719-974-73 | DIODE | LT4204H |
| D321 | 8-719-974-73 | DIODE | LT4204H |
| D322 | 8-719-974-73 | DIODE | LT4204H |
| D323 | 8-719-974-73 | DIODE | LT4204H |
| D324 | 8-719-974-73 | DIODE | LT4204H |
| D325 | 8-719-974-73 | DIODE | LT4204H |

< RESISTOR >

| Ref. No. | Part No. | Description | | | |
|---|---|---|---|---|---|
| R306 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W |
| R307 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W |
| R314 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W |
| R315 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W |
| R316 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W |
| R322 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W |
| R323 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W |
| R327 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W |
| R328 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R334 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W |
| R335 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |

< SWITCH >

| Ref. No. | Part No. | Description |
|---|---|---|
| SW317 | 1-554-303-21 | SWITCH, TACTILE (PROCESS OUT) |
| SW318 | 1-554-303-21 | SWITCH, TACTILE (SELECT A) |
| SW319 | 1-554-303-21 | SWITCH, TACTILE (SELECT B) |
| SW320 | 1-554-303-21 | SWITCH, TACTILE (EDIT MONITOR) |
| SW321 | 1-554-303-21 | SWITCH, TACTILE (EXT KEY) |
| SW322 | 1-554-303-21 | SWITCH, TACTILE (PROCESS OUT) |
| SW323 | 1-554-303-21 | SWITCH, TACTILE (LINE) |
| SW324 | 1-554-303-21 | SWITCH, TACTILE ( A ) |
| SW325 | 1-554-303-21 | SWITCH, TACTILE ( B ) |

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* 1-629-636-11 CR-21 BOARD (Ref.No 7,000 Series)
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| Ref. No. | Part No. | Description |
|---|---|---|
| | 7-628-253-90 | SCREW +PS 2.6X4 |
| | 7-682-547-04 | SCREW +BVTT 3X6 (S) |

< CONNECTOR >

| Ref. No. | Part No. | Description |
|---|---|---|
| CN601 | * 1-560-895-00 | PIN, CONNECTOR 7P |
| CNJ601 | * 1-565-253-11 | CONNECTOR, ROUND TYPE 8P (CONTROLLER) |

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* 1-629-639-11 CS-13 BOARD (Ref.No 1,500 Series)
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< CONNECTOR >

| Ref. No. | Part No. | Description |
|---|---|---|
| CN001 | 1-506-467-11 | CONNECTOR 2P, MALE |

< SWITCH >

| Ref. No. | Part No. | Description |
|---|---|---|
| SW001 | 1-571-083-21 | SWITCH, SLIDE (DEMO) |

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* A-7062-541-A DP-40A BOARD, COMPLETE
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(Ref.No 8,000 Series)

| Ref. No. | Part No. | Description |
|---|---|---|
| | * 3-657-842-31 | SPACER (3X7.5) (DP-40B) |
| | 7-682-550-04 | SCREW +BVTT 3X12(S) (DP-40B) |
| | 7-685-646-79 | SCREW +BVTP 3X8 TYPE2 IT-3 |
| | 7-685-646-79 | SCREW +BVTP 3X8 TYPE2 |

< CAPACITOR >

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C101 | 1-124-570-11 | ELECT | 220uF | 20% | 16V |
| C102 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C103 | 1-124-569-11 | ELECT | 56uF | 20% | 16V |
| C104 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C105 | 1-124-570-11 | ELECT | 220uF | 20% | 16V |
| C106 | 1-124-570-11 | ELECT | 220uF | 20% | 16V |
| C107 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C108 | 1-124-569-11 | ELECT | 56uF | 20% | 16V |
| C109 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C110 | 1-124-570-11 | ELECT | 220uF | 20% | 16V |
| C111 | 1-124-570-11 | ELECT | 220uF | 20% | 16V |
| C112 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C113 | 1-124-569-11 | ELECT | 56uF | 20% | 16V |
| C114 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C115 | 1-124-570-11 | ELECT | 220uF | 20% | 16V |
| C116 | 1-124-570-11 | ELECT | 220uF | 20% | 16V |
| C117 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C118 | 1-124-569-11 | ELECT | 56uF | 20% | 16V |
| C119 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C120 | 1-124-570-11 | ELECT | 220uF | 20% | 16V |
| C121 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C122 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C123 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C124 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C125 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C126 | 1-163-227-11 | CERAMIC CHIP | 10PF | 5% | 50V |
| C127 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C128 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C129 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C130 | 1-163-227-11 | CERAMIC CHIP | 10PF | 5% | 50V |
| C131 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C132 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C133 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C134 | 1-163-227-11 | CERAMIC CHIP | 10PF | 5% | 50V |
| C135 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C136 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C137 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C138 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C139 | 1-163-145-00 | CERAMIC CHIP | 0.0015uF | 5% | 50V |
| C140 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C141 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C142 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C143 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C144 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C145 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C146 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C147 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C148 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C149 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C150 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C151 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V (DP-40A) |
| C152 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V (DP-40A) |

When indicating parts by reference number, please include the board name.

## DP-40A

| Ref. No. | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| C153 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | (DP-40A) |
| C154 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | (DP-40A) |
| C155 | 1-124-126-00 | ELECT | 47uF | 20% | 10V | (DP-40A) |
| C156 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | (DP-40A) |
| C157 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | (DP-40A) |
| C158 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | (DP-40A) |
| C159 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | (DP-40A) |
| C160 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | (DP-40A) |
| C161 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | |
| C162 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | (DP-40A) |
| C163 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | (DP-40A) |
| C164 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | (DP-40A) |
| C165 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | (DP-40A) |
| C166 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | (DP-40A) |
| C501 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | |
| C502 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V | |
| C503 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V | |
| C504 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | |
| C505 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | |
| C506 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | |
| C507 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | |
| C508 | 1-124-126-00 | ELECT | 47uF | 20% | 10V | |
| C509 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V | |
| C510 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | |
| C511 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | |
| C512 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C513 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | |
| C514 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | |
| C515 | 1-124-126-00 | ELECT | 47uF | 20% | 10V | |
| C516 | 1-124-126-00 | ELECT | 47uF | 20% | 10V | |
| C517 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | |
| C518 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | |
| C519 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C520 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | |
| C521 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | |
| C522 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V | |
| C523 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V | |
| C524 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V | |
| C525 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V | |
| C526 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V | |
| C527 | 1-163-989-11 | CERAMIC CHIP | 0.033uF | 10% | 25V | |
| C528 | 1-164-182-11 | CERAMIC CHIP | 0.0033uF | 10% | 50V | |
| C529 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | |
| C530 | 1-124-126-00 | ELECT | 47uF | 20% | 10V | |
| C531 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V | |
| C532 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V | |
| C533 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | |
| C534 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V | |
| C535 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V | |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C536 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C537 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C538 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C539 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C540 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C541 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C542 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C543 | 1-163-227-11 | CERAMIC CHIP | 10PF | 5% | 50V |
| C544 | 1-163-227-11 | CERAMIC CHIP | 10PF | 5% | 50V |
| C545 | 1-163-135-00 | CERAMIC CHIP | 560PF | 5% | 50V |
| C546 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C547 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C548 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C549 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C550 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C551 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C552 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C553 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C554 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C555 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C556 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C557 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C558 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C559 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C560 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C561 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C562 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C563 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C564 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C565 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C566 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C567 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C568 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C569 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C570 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C571 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C572 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C573 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |
| C574 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C575 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C576 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C577 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C578 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C579 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C580 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C581 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C582 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C583 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C584 | 1-124-126-00 | ELECT | 47uF | 20% | 10V |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| C585 | 1-163-038-00 | CERAMIC CHIP 0.1uF | 25V |
| C586 | 1-163-127-00 | CERAMIC CHIP 270PF 5% | 50V |
| C587 | 1-163-127-00 | CERAMIC CHIP 270PF 5% | 50V |
| C588 | 1-163-038-00 | CERAMIC CHIP 0.1uF | 25V |
| C589 | 1-163-125-00 | CERAMIC CHIP 220PF 5% | 50V |
| C590 | 1-163-133-00 | CERAMIC CHIP 470PF 5% | 50V |
| C591 | 1-163-141-00 | CERAMIC CHIP 0.001uF 5% 50V | (DP-40A) |
| C592 | 1-163-038-00 | CERAMIC CHIP 0.1uF | 25V |
| C593 | 1-124-126-00 | ELECT 47μF 20% | 10V |
| C594 | 1-163-038-00 | CERAMIC CHIP 0.1uF | 25V |
| C595 | 1-163-038-00 | CERAMIC CHIP 0.1uF | 25V |
| C596 | 1-163-109-00 | CERAMIC CHIP 47PF 5% | 50V |
| C597 | 1-163-038-00 | CERAMIC CHIP 0.1uF | 25V |
| C598 | 1-163-125-00 | CERAMIC CHIP 220PF 5% | 50V |
| C599 | 1-163-038-00 | CERAMIC CHIP 0.1uF | 25V |
| C600 | 1-164-005-11 | CERAMIC CHIP 0.47uF | 25V |

< CONNECTOR >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| CN101 | 1-580-723-11 | CONNECTOR, BOARD TO BOARD 28P | |
| CN102 | * 1-562-991-11 | SOCKET, CONNECTOR 22P | |
| CN103 | 1-506-471-11 | CONNECTOR 6P, MALE | |
| CN201 | 1-580-723-11 | CONNECTOR, BOARD TO BOARD 28P | |
| CN301 | 1-580-723-11 | CONNECTOR, BOARD TO BOARD 28P | |

< TRIMMER >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| CV501 | 1-141-304-21 | CAP, TRIMMER 10PF | |

< DIODE >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| D101 | 8-719-800-76 | DIODE 1SS226 | |
| D102 | 8-719-800-76 | DIODE 1SS226 | |
| D103 | 8-719-800-76 | DIODE 1SS226 | |

< DELAY LINE >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| DL101 | 1-415-642-11 | DL | |
| DL102 | 1-415-642-11 | DL | |

< FILTER >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| FL101 | 1-236-738-11 | FILTER, EMI | |
| FL102 | 1-236-738-11 | FILTER, EMI | |
| FL103 | 1-236-738-11 | FILTER, EMI | |
| FL104 | 1-236-738-11 | FILTER, EMI | |
| FL105 | 1-236-738-11 | FILTER, EMI | |
| FL106 | 1-236-384-11 | LPF | |
| FL107 | 1-239-013-11 | FILTER, BAND PASS | |
| FL109 | 1-236-379-11 | LPF | |
| FL110 | 1-239-013-11 | FILTER, BAND PASS | |
| FL111 | 1-236-384-11 | LPF | |
| FL112 | 1-236-738-11 | FILTER, EMI | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| FL113 | 1-236-738-11 | FILTER, EMI | |
| FL114 | 1-236-381-11 | LPF (DP-40A) | |
| FL115 | 1-236-381-11 | LPF (DP-40A) | |
| FL116 | 1-236-738-11 | FILTER, EMI (DP-40A) | |
| FL117 | 1-236-738-11 | FILTER, EMI (DP-40A) | |
| FL118 | 1-236-740-21 | FILTER, EMI | |
| FL119 | 1-236-740-21 | FILTER, EMI | |
| FL120 | 1-236-740-21 | FILTER, EMI | |
| FL121 | 1-236-740-21 | FILTER, EMI | |
| FL122 | 1-236-740-21 | FILTER, EMI | |
| FL123 | 1-236-740-21 | FILTER, EMI | |
| FL124 | 1-236-740-21 | FILTER, EMI | |
| FL125 | 1-236-740-21 | FILTER, EMI | |
| FL126 | 1-236-738-11 | FILTER, EMI | |
| FL127 | 1-236-740-21 | FILTER, EMI | |
| FL128 | 1-236-740-21 | FILTER, EMI | |
| FL129 | 1-236-740-21 | FILTER, EMI | |
| FL132 | 1-236-738-11 | FILTER, EMI | |
| FL134 | 1-236-740-21 | FILTER, EMI | |
| FL136 | 1-236-738-11 | FILTER, EMI | |
| FL137 | 1-239-035-11 | FILTER, EMI (CHIP) | |
| FL138 | 1-239-035-11 | FILTER, EMI (CHIP) | |
| FL139 | 1-239-035-11 | FILTER, EMI (CHIP) | |
| FL141 | 1-236-744-21 | FILTER, EMI | |
| FL142 | 1-236-744-21 | FILTER, EMI | |
| FL143 | 1-236-744-21 | FILTER, EMI | |
| FL501 | 1-239-011-11 | FILTER, LOW PASS | |
| FL502 | 1-239-011-11 | FILTER, LOW PASS | |
| FL503 | 1-239-011-11 | FILTER, LOW PASS | |
| FL504 | 1-239-012-11 | FILTER, LOW PASS | |
| FL505 | 1-239-012-11 | FILTER, LOW PASS | |
| FL506 | 1-236-382-11 | LPF | |
| FL507 | 1-236-738-11 | FILTER, EMI | |
| FL508 | 1-236-738-11 | FILTER, EMI | |
| FL509 | 1-236-738-11 | FILTER, EMI | |
| FL510 | 1-236-738-11 | FILTER, EMI | |
| FL511 | 1-236-740-21 | FILTER, EMI | |
| FL512 | 1-236-740-21 | FILTER, EMI | |
| FL513 | 1-236-740-21 | FILTER, EMI | |

< IC >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| IC101 | 8-759-144-82 | IC uPC2405HF | |
| IC102 | 8-759-144-82 | IC uPC2405HF | |
| IC103 | 8-759-982-52 | IC M5F79M05L | |
| IC104 | 8-759-230-XX | IC TC74HC4053AF-TP1 | |
| IC105 | 8-759-242-74 | IC TC7W04F-TE12L | |
| IC106 | 8-759-907-81 | IC SN74LS221NS | |
| IC107 | 8-759-144-82 | IC uPC2405HF | |
| IC108 | 8-752-334-64 | IC CXD1171M (DP-40A) | |

When indicating parts by reference number, please include the board name.

## DP-40A

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| IC109 | 8-752-334-64 | IC CXD1171M (DP-40A) | |
| IC110 | 8-759-505-98 | IC MB620461 | |
| IC501 | 8-752-333-24 | IC CXL1506M | |
| IC502 | 8-759-603-54 | IC M51271FP | |
| IC503 | 8-759-631-06 | IC M50541FP | |
| IC504 | 8-759-633-04 | IC M52686AFP | |
| IC505 | 8-759-630-63 | IC M5M4C500L-10K | |
| IC506 | 8-759-633-96 | IC M52682FP | |
| IC507 | 8-759-907-81 | IC SN74LS221NS | |
| IC508 | 8-759-100-93 | IC uPC393G2 | |
| IC509 | 8-759-907-81 | IC SN74LS221NS | |
| IC510 | 8-759-239-23 | IC TC74HC86AF | |
| IC511 | 8-759-239-23 | IC TC74HC86AF | |
| IC512 | 8-759-232-74 | IC TC74HC163AF | |

< COIL >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| L101 | 1-424-090-11 | COIL, LINE FILTER | |
| L102 | 1-424-090-11 | COIL, LINE FILTER | |
| L103 | 1-424-154-11 | COIL, LINE FILTER | |
| L104 | 1-424-154-11 | COIL, LINE FILTER | |
| L105 | 1-424-090-11 | COIL, LINE FILTER | |
| L106 | 1-424-090-11 | COIL, LINE FILTER | |
| L107 | 1-424-090-11 | COIL, LINE FILTER | |
| L108 | 1-424-090-11 | COIL, LINE FILTER | |
| L109 | 1-424-090-11 | COIL, LINE FILTER | |
| L110 | 1-424-090-11 | COIL, LINE FILTER | |
| L111 | 1-424-090-11 | COIL, LINE FILTER (DP-40A) | |
| L112 | 1-543-775-11 | FILTER, EMI | |
| L113 | 1-543-775-11 | FILTER, EMI | |
| L114 | 1-543-775-11 | FILTER, EMI | |
| L115 | 1-543-775-11 | FILTER, EMI | |
| L116 | 1-543-813-21 | BEAD, FERRITE | |
| L501 | 1-424-090-11 | COIL, LINE FILTER | |
| L502 | 1-424-090-11 | COIL, LINE FILTER | |
| L503 | 1-424-090-11 | COIL, LINE FILTER | |
| L504 | 1-424-090-11 | COIL, LINE FILTER | |
| L505 | 1-424-090-11 | COIL, LINE FILTER | |
| L506 | 1-424-090-11 | COIL, LINE FILTER | |
| L507 | 1-424-090-11 | COIL, LINE FILTER | |
| L508 | 1-424-090-11 | COIL, LINE FILTER | |
| L509 | 1-424-090-11 | COIL, LINE FILTER | |
| L510 | 1-424-090-11 | COIL, LINE FILTER | |
| L511 | 1-424-090-11 | COIL, LINE FILTER | |
| L512 | 1-424-090-11 | COIL, LINE FILTER | |
| L513 | 1-424-090-11 | COIL, LINE FILTER | |
| L514 | 1-424-090-11 | COIL, LINE FILTER | |
| L515 | 1-543-813-21 | BEAD, FERRITE | |
| L516 | 1-543-813-21 | BEAD, FERRITE | |
| L517 | 1-543-813-21 | BEAD, FERRITE | |
| L518 | 1-543-813-21 | BEAD, FERRITE | |
| L519 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L520 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |
| L521 | 1-412-390-21 | INDUCTOR, CHIP 0uH | |

< TRANSISTOR >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| Q101 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q102 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q103 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q104 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q105 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q106 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q107 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q108 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q109 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q110 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q111 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q112 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q113 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q114 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q115 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q116 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q117 | 8-729-100-66 | TRANSISTOR 2SC1623 (DP-40A) | |
| Q118 | 8-729-100-66 | TRANSISTOR 2SC1623 (DP-40A) | |
| Q119 | 8-729-100-66 | TRANSISTOR 2SC1623 (DP-40A) | |
| Q120 | 8-729-100-66 | TRANSISTOR 2SC1623 (DP-40A) | |
| Q501 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q502 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q503 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q504 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q505 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q506 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q507 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q508 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q509 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q510 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q511 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q512 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q513 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q514 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q515 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q516 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q517 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q518 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q519 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q520 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q521 | 8-729-100-66 | TRANSISTOR 2SC1623 | |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| | | < RESISTOR > | | | | |
| R101 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R102 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | |
| R103 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W | |
| R104 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W | |
| R105 | 1-216-051-00 | METAL CHIP | 1.2K | 5% | 1/10W | |
| R106 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W | |
| R107 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W | |
| R108 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W | |
| R109 | 1-216-660-11 | METAL CHIP | 2.4K | 0.5% | 1/10W | |
| R110 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W | |
| R111 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R112 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | |
| R113 | 1-216-650-11 | METAL CHIP | 910 | 0.5% | 1/10W | |
| R114 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W | |
| R115 | 1-216-051-00 | METAL CHIP | 1.2K | 5% | 1/10W | |
| R116 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W | |
| R117 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W | |
| R118 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W | |
| R119 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W | |
| R120 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | |
| R121 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R122 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | |
| R123 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W | |
| R124 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W | |
| R125 | 1-216-051-00 | METAL CHIP | 1.2K | 5% | 1/10W | |
| R126 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W | |
| R127 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W | |
| R128 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W | |
| R129 | 1-216-660-11 | METAL CHIP | 2.4K | 0.5% | 1/10W | |
| R130 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | |
| R131 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R132 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W | |
| R133 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R134 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W | |
| R135 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R136 | 1-216-643-11 | METAL CHIP | 470 | 0.5% | 1/10W | |
| R137 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R138 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R139 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R140 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R141 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R142 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R143 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R144 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R145 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W | |
| R146 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W | |
| R147 | 1-216-051-00 | METAL CHIP | 1.2K | 5% | 1/10W | |
| R148 | 1-216-650-11 | METAL CHIP | 910 | 0.5% | 1/10W | |
| R149 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W | |
| R150 | 1-216-051-00 | METAL CHIP | 1.2K | 5% | 1/10W | |
| R151 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R152 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R153 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R154 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R155 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R156 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R157 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R158 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R159 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R160 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R161 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R162 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R163 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R164 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R165 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R166 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W | |
| R167 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W | (DP-40A) |
| R168 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W | (DP-40A) |
| R169 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W | (DP-40A) |
| R170 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W | (DP-40A) |
| R171 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | (DP-40A) |
| R172 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W | (DP-40A) |
| R173 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W | (DP-40A) |
| R174 | 1-216-051-00 | METAL CHIP | 1.2K | 5% | 1/10W | (DP-40A) |
| R175 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | (DP-40A) |
| R176 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W | (DP-40A) |
| R177 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W | (DP-40A) |
| R178 | 1-216-051-00 | METAL CHIP | 1.2K | 5% | 1/10W | (DP-40A) |
| R179 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W | (DP-40A) |
| R180 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W | (DP-40A) |
| R181 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | (DP-40A) |
| R182 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W | (DP-40A) |
| R183 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W | (DP-40A) |
| R184 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W | (DP-40A) |
| R185 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | (DP-40A) |
| R186 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W | (DP-40A) |
| R187 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W | |
| R188 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W | |
| R189 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W | |
| R190 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W | |
| R191 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W | |
| R192 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W | |
| R193 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W | |
| R194 | 1-216-017-00 | METAL CHIP | 47 | 5% | 1/10W | |
| R196 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W | |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R197 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R198 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R199 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W |
| R201 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R202 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W |
| R203 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R204 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R205 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R206 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R207 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R208 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R209 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R210 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R211 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R213 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R214 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R215 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R216 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R217 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R219 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R220 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R221 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R222 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R223 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R225 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R226 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R227 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R228 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R229 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R230 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R231 | 1-216-117-00 | METAL CHIP | 680K | 5% | 1/10W |
| R233 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W |
| R234 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R235 | 1-216-021-00 | METAL CHIP | 68 | 5% | 1/10W |
| R236 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R239 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W |
| R241 | 1-216-648-11 | METAL CHIP | 750 | 0.5% | 1/10W |
| R242 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R243 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W |
| R244 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W |
| R245 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W |
| R246 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W |
| R247 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W |
| R248 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W |
| R501 | 1-216-027-00 | METAL CHIP | 120 | 5% | 1/10W |
| R502 | 1-216-095-00 | METAL CHIP | 82K | 5% | 1/10W |
| R503 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R504 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R505 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R506 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R507 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W |
| R508 | 1-216-051-00 | METAL CHIP | 1.2K | 5% | 1/10W |
| R509 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R510 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R511 | 1-216-082-00 | METAL GLAZE | 24K | 5% | 1/10W |
| R512 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R513 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R514 | 1-216-045-00 | METAL CHIP | 680 | 5% | 1/10W |
| R515 | 1-216-048-00 | METAL CHIP | 910 | 5% | 1/10W |
| R516 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R517 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R518 | 1-216-051-00 | METAL CHIP | 1.2K | 5% | 1/10W |
| R519 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R520 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R521 | 1-216-082-00 | METAL GLAZE | 24K | 5% | 1/10W |
| R522 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R523 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R524 | 1-216-045-00 | METAL CHIP | 680 | 5% | 1/10W |
| R525 | 1-216-048-00 | METAL CHIP | 910 | 5% | 1/10W |
| R526 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R527 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R528 | 1-216-659-11 | METAL CHIP | 2.2K | 0.5% | 1/10W |
| R529 | 1-216-659-11 | METAL CHIP | 2.2K | 0.5% | 1/10W |
| R530 | 1-216-659-11 | METAL CHIP | 2.2K | 0.5% | 1/10W |
| R531 | 1-216-663-11 | METAL CHIP | 3.3K | 0.5% | 1/10W |
| R532 | 1-216-659-11 | METAL CHIP | 2.2K | 0.5% | 1/10W |
| R533 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R534 | 1-216-095-00 | METAL CHIP | 82K | 5% | 1/10W |
| R535 | 1-216-659-11 | METAL CHIP | 2.2K | 0.5% | 1/10W |
| R536 | 1-216-748-11 | METAL CHIP | 39K | 5% | 1/10W |
| R537 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R538 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R539 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R540 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R541 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R542 | 1-216-113-00 | METAL CHIP | 470K | 5% | 1/10W |
| R543 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R544 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R545 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R546 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R547 | 1-216-045-00 | METAL CHIP | 680 | 5% | 1/10W |
| R548 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R549 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R550 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R551 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R552 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R553 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R554 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| R555 | 1-216-651-11 | METAL CHIP 1K 0.5% 1/10W | |
| R556 | 1-216-651-11 | METAL CHIP 1K 0.5% 1/10W | |
| R557 | 1-216-053-00 | METAL CHIP 1.5K 5% 1/10W | |
| R558 | 1-216-651-11 | METAL CHIP 1K 0.5% 1/10W | |
| R559 | 1-216-651-11 | METAL CHIP 1K 0.5% 1/10W | |
| R560 | 1-216-658-11 | METAL CHIP 2K 0.5% 1/10W | |
| R561 | 1-216-053-00 | METAL CHIP 1.5K 5% 1/10W | |
| R562 | 1-216-053-00 | METAL CHIP 1.5K 5% 1/10W | |
| R563 | 1-216-097-00 | METAL CHIP 100K 5% 1/10W | |
| R564 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R565 | 1-216-295-00 | METAL CHIP 0 5% 1/10W | (DP-40A) |
| R566 | 1-216-041-00 | METAL CHIP 470 5% 1/10W | |
| R567 | 1-216-053-00 | METAL CHIP 1.5K 5% 1/10W | |
| R568 | 1-216-041-00 | METAL CHIP 470 5% 1/10W | |
| R569 | 1-216-053-00 | METAL CHIP 1.5K 5% 1/10W | |
| R570 | 1-216-041-00 | METAL CHIP 470 5% 1/10W | |
| R571 | 1-216-053-00 | METAL CHIP 1.5K 5% 1/10W | |
| R572 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |
| R573 | 1-216-097-00 | METAL CHIP 100K 5% 1/10W | |
| R574 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R575 | 1-216-097-00 | METAL CHIP 100K 5% 1/10W | |
| R576 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R577 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |
| R578 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R579 | 1-216-037-00 | METAL CHIP 330 5% 1/10W | |
| R581 | 1-216-063-00 | METAL CHIP 3.9K 5% 1/10W | |
| R582 | 1-216-063-00 | METAL CHIP 3.9K 5% 1/10W | |
| R583 | 1-216-063-00 | METAL CHIP 3.9K 5% 1/10W | |
| R584 | 1-216-063-00 | METAL CHIP 3.9K 5% 1/10W | |
| R606 | 1-216-041-00 | METAL CHIP 470 5% 1/10W | |
| R607 | 1-216-041-00 | METAL CHIP 470 5% 1/10W | |
| R608 | 1-216-041-00 | METAL CHIP 470 5% 1/10W | |
| R609 | 1-216-041-00 | METAL CHIP 470 5% 1/10W | |
| R610 | 1-216-041-00 | METAL CHIP 470 5% 1/10W | |
| R611 | 1-216-041-00 | METAL CHIP 470 5% 1/10W | |
| R615 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R616 | 1-216-033-00 | METAL CHIP 220 5% 1/10W | |
| | | < VARIABLE RESISTOR > | |
| RV102 | 1-230-495-11 | RES, ADJ, METAL GLAZE 2.2K | |
| RV501 | 1-230-521-11 | RES, ADJ, METAL 2.2K | |
| RV502 | 1-230-521-11 | RES, ADJ, METAL 2.2K | |
| RV503 | 1-230-522-11 | RES, ADJ, METAL 4.7K | (SUPERVISION POSITION ADJ) |
| RV504 | 1-230-520-11 | RES, ADJ, METAL 1K | |
| | | < CRYSTAL > | |
| X501 | 1-567-733-11 | VIBRATOR, CRYSTAL | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | 1-629-874-11 | GM-6 BOARD (Ref.No 1,000 Series)<br>********** | |
| | | < CAPACITOR > | |
| C001 | 1-164-232-11 | CERAMIC CHIP 0.01uF 50V | |
| C002 | 1-126-154-11 | ELECT 47uF 20% 6.3V | |
| C003 | 1-164-232-11 | CERAMIC CHIP 0.01uF 50V | |
| C004 | 1-126-154-11 | ELECT 47uF 20% 6.3V | |
| | | < CONNECTOR > | |
| CN001 | 1-568-650-11 | PIN, CONNECTOR | |
| CN002 | 1-568-650-11 | PIN, CONNECTOR | |
| | | < IC > | |
| IC001 | 8-759-000-49 | IC MC14066BCP | |
| IC002 | 8-759-340-52 | IC HD14052BP | |
| | | < TRANSISTOR > | |
| Q001 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| | | < RESISTOR > | |
| R001 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R002 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R003 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R004 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R005 | 1-216-051-00 | METAL CHIP 1.2K 5% 1/10W | |
| R006 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R007 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R008 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R009 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |

*****************************************************************

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| * | A-7052-544-A | MB-45 BOARD, COMPLETE<br>********************<br>(Ref.No 9,000 Series) | |
| | | < CAPACITOR > | |
| C101 | 1-163-038-00 | CERAMIC CHIP 0.1uF 25V | |
| C102 | 1-163-038-00 | CERAMIC CHIP 0.1uF 25V | |
| C103 | 1-124-584-00 | ELECT 100uF 20% 10V | |
| C104 | 1-124-584-00 | ELECT 100uF 20% 10V | |
| C106 | 1-163-038-00 | CERAMIC CHIP 0.1uF 25V | |
| C107 | 1-163-038-00 | CERAMIC CHIP 0.1uF 25V | |
| C108 | 1-163-038-00 | CERAMIC CHIP 0.1uF 25V | |
| C109 | 1-124-584-00 | ELECT 100uF 20% 10V | |
| C115 | 1-163-038-00 | CERAMIC CHIP 0.1uF 25V | |
| C119 | 1-124-584-00 | ELECT 100uF 20% 10V | |
| C120 | 1-163-251-11 | CERAMIC CHIP 100PF 5% 50V | |
| C121 | 1-163-251-11 | CERAMIC CHIP 100PF 5% 50V | |

When indicating parts by reference number, please include the board name.

## MB-45

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C122 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C123 | 1-124-584-00 | ELECT | 100uF | 20% | 10V |
| C125 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C126 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C127 | 1-124-584-00 | ELECT | 100uF | 20% | 10V |
| C128 | 1-163-121-00 | CERAMIC CHIP | 150PF | 5% | 50V |
| C129 | 1-164-232-11 | CERAMIC CHIP | 0. 01uF | | 50V |
| C130 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C131 | 1-124-584-00 | ELECT | 100uF | 20% | 10V |
| C132 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C133 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C134 | 1-124-589-11 | ELECT | 47uF | 20% | 16V |
| C135 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C136 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C137 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C138 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C140 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C141 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C143 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C144 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C145 | 1-126-160-11 | ELECT | 1uF | 20% | 50V |
| C146 | 1-126-160-11 | ELECT | 1uF | 20% | 50V |
| C148 | 1-124-254-00 | ELECT | 0. 68uF | 20% | 50V |
| C149 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C150 | 1-163-037-11 | CERAMIC CHIP | 0. 022uF | 10% | 25V |
| C156 | 1-163-017-00 | CERAMIC CHIP | 0. 0047uF | 5% | 50V |
| C160 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C161 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C181 | 1-124-589-11 | ELECT | 47uF | 20% | 16V |
| C182 | 1-163-227-11 | CERAMIC CHIP | 10PF | 5% | 50V |
| C183 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C184 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C185 | 1-126-160-11 | ELECT | 1uF | 20% | 50V |
| C186 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C187 | 1-124-589-11 | ELECT | 47uF | 20% | 16V |
| C198 | 1-124-584-00 | ELECT | 100uF | 20% | 10V |
| C199 | 1-124-584-00 | ELECT | 100uF | 20% | 10V |
| C201 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C202 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C203 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C204 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C205 | 1-124-584-00 | ELECT | 100uF | 20% | 10V |
| C208 | 1-163-100-00 | CERAMIC CHIP | 20PF | 5% | 50V |
| C210 | 1-163-125-00 | CERAMIC CHIP | 220PF | 5% | 50V |
| C211 | 1-163-227-11 | CERAMIC CHIP | 10PF | 5% | 50V |
| C212 | 1-163-227-11 | CERAMIC CHIP | 10PF | 5% | 50V |
| C213 | 1-124-589-11 | ELECT | 47uF | 20% | 16V |
| C219 | 1-163-023-00 | CERAMIC CHIP | 0. 015uF | 5% | 50V |
| C220 | 1-164-232-11 | CERAMIC CHIP | 0. 01uF | | 50V |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C221 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C222 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C223 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C224 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C225 | 1-124-584-00 | ELECT | 100uF | 20% | 10V |
| C226 | 1-124-584-00 | ELECT | 100uF | 20% | 10V |
| C227 | 1-164-232-11 | CERAMIC CHIP | 0. 01uF | | 50V |
| C228 | 1-164-232-11 | CERAMIC CHIP | 0. 01uF | | 50V |
| C229 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C230 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C231 | 1-126-160-11 | ELECT | 1uF | 20% | 50V |
| C232 | 1-163-141-00 | CERAMIC CHIP | 0. 001uF | 5% | 50V |
| C233 | 1-124-584-00 | ELECT | 100uF | 20% | 10V |
| C234 | 1-124-584-00 | ELECT | 100uF | 20% | 10V |
| C235 | 1-124-584-00 | ELECT | 100uF | 20% | 10V |
| C236 | 1-164-182-11 | CERAMIC CHIP | 0. 0033uF | 10% | 50V |
| C237 | 1-163-017-00 | CERAMIC CHIP | 0. 0047uF | 5% | 50V |
| C238 | 1-124-584-00 | ELECT | 100uF | 20% | 10V |
| C239 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C240 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C241 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C242 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C243 | 1-126-162-11 | ELECT | 3. 3uF | 20% | 50V |
| C244 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C245 | 1-163-125-00 | CERAMIC CHIP | 220PF | 5% | 50V |
| C246 | 1-163-098-00 | CERAMIC CHIP | 16PF | 5% | 50V |
| C247 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C248 | 1-164-232-11 | CERAMIC CHIP | 0. 01uF | | 50V |
| C249 | 1-124-499-11 | ELECT. NONPOLAR | 1uF | 20% | 50V |
| C250 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C251 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C252 | 1-126-160-11 | ELECT | 1uF | 20% | 50V |
| C255 | 1-164-005-11 | CERAMIC CHIP | 0. 47uF | | 25V |
| C257 | 1-164-005-11 | CERAMIC CHIP | 0. 47uF | | 25V |
| C258 | 1-124-584-00 | ELECT | 100uF | 20% | 10V |
| C259 | 1-164-005-11 | CERAMIC CHIP | 0. 47uF | | 25V |
| C261 | 1-164-005-11 | CERAMIC CHIP | 0. 47uF | | 25V |
| C263 | 1-164-005-11 | CERAMIC CHIP | 0. 47uF | | 25V |
| C265 | 1-164-005-11 | CERAMIC CHIP | 0. 47uF | | 25V |
| C266 | 1-124-584-00 | ELECT | 100uF | 20% | 10V |
| C267 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C268 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C269 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C270 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C271 | 1-124-584-00 | ELECT | 100uF | 20% | 10V |
| C272 | 1-163-038-00 | CERAMIC CHIP | 0. 1uF | | 25V |
| C273 | 1-124-584-00 | ELECT | 100uF | 20% | 10V |
| C274 | 1-124-584-00 | ELECT | 100uF | 20% | 10V |
| C275 | 1-124-584-00 | ELECT | 100uF | 20% | 10V |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C276 | 1-124-584-00 | ELECT | 100uF | 20% | 10V |
| C277 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C278 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |
| C279 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C280 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C290 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C291 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C292 | 1-124-584-00 | ELECT | 100uF | 20% | 10V |
| C294 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C295 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C296 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C297 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C298 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C299 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C301 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C302 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C303 | 1-124-584-00 | ELECT | 100uF | 20% | 10V |
| C304 | 1-163-236-11 | CERAMIC CHIP | 24PF | 5% | 50V |
| C305 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C306 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C307 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C308 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C309 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C310 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C311 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C312 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C313 | 1-124-584-00 | ELECT | 100uF | 20% | 10V |
| C314 | 1-124-584-00 | ELECT | 100uF | 20% | 10V |
| C315 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C316 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C317 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C318 | 1-124-584-00 | ELECT | 100uF | 20% | 10V |
| C321 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C322 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C325 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C326 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C327 | 1-126-160-11 | ELECT | 1uF | 20% | 50V |
| C329 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C330 | 1-124-589-11 | ELECT | 47uF | 20% | 16V |
| C331 | 1-163-017-00 | CERAMIC CHIP | 0.0047uF | 5% | 50V |
| C332 | 1-164-182-11 | CERAMIC CHIP | 0.0033uF | 10% | 50V |
| C333 | 1-124-584-00 | ELECT | 100uF | 20% | 10V |
| C334 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C335 | 1-126-162-11 | ELECT | 3.3uF | 20% | 50V |
| C336 | 1-163-125-00 | CERAMIC CHIP | 220PF | 5% | 50V |
| C337 | 1-163-098-00 | CERAMIC CHIP | 16PF | 5% | 50V |
| C338 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C339 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C340 | 1-163-236-11 | CERAMIC CHIP | 24PF | 5% | 50V |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C341 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C342 | 1-124-589-11 | ELECT | 47uF | 20% | 16V |
| C501 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C502 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C503 | 1-163-989-11 | CERAMIC CHIP | 0.033uF | 10% | 25V |
| C504 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C505 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C506 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C507 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C508 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C509 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| | | < CONNECTOR > | | | |
| CN101 | 1-580-722-11 | CONNECTOR, BOARD TO BOARD 28P | | | |
| CN201 | 1-580-722-11 | CONNECTOR, BOARD TO BOARD 28P | | | |
| CN301 | 1-580-722-11 | CONNECTOR, BOARD TO BOARD 28P | | | |
| | | < TRIMMER > | | | |
| CV201 | 1-141-227-00 | CAP, TRIMMER | 20PF | | |
| CV202 | 1-141-227-00 | CAP, TRIMMER | 20PF | | |
| CV301 | 1-141-304-21 | CAP, TRIMMER | 10PF | | |
| CV302 | 1-141-227-00 | CAP, TRIMMER | 20PF | | |
| | | < DIODE > | | | |
| D181 | 8-719-800-76 | DIODE | 1SS226 | | |
| D182 | 8-719-800-76 | DIODE | 1SS226 | | |
| D201 | 8-713-300-88 | DIODE | 1T33C-01 | | |
| D203 | 8-719-104-34 | DIODE | 1S2836 | | |
| D204 | 8-713-300-88 | DIODE | 1T33C-01 | | |
| D297 | 8-719-800-76 | DIODE | 1SS226 | | |
| D298 | 8-719-800-76 | DIODE | 1SS226 | | |
| D299 | 8-719-800-76 | DIODE | 1SS226 | | |
| D301 | 8-713-300-88 | DIODE | 1T33C-01 | | |
| D302 | 8-713-300-88 | DIODE | 1T33C-01 | | |
| | | < IC > | | | |
| IC101 | 8-759-144-84 | IC | uPC24M05HF | | |
| IC102 | 8-752-334-55 | IC | CXD1175AM | | |
| IC103 | 8-752-336-90 | IC | CXD2105Q | | |
| IC104 | 8-752-039-34 | IC | CXA1208Q | | |
| IC201 | 8-752-334-55 | IC | CXD1175AM | | |
| IC202 | 8-752-334-55 | IC | CXD1175AM | | |
| IC203 | 8-759-987-17 | IC | CXD1226Q | | |
| IC204 | 8-759-987-20 | IC | CXD1229Q | | |
| IC205 | 8-759-100-93 | IC | uPC393G2 | | |
| IC206 | 8-759-233-18 | IC | TC74HC374AF-TP1 | | |
| IC207 | 8-752-337-41 | IC | CXK1206M | | |
| IC208 | 8-752-337-41 | IC | CXK1206M | | |
| IC209 | 8-752-337-41 | IC | CXK1206M | | |
| IC210 | 8-752-337-41 | IC | CXK1206M | | |

When indicating parts by reference number, please include the board name.

## MB-45

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| IC211 | 8-752-337-41 | IC CXK1206M | |
| IC212 | 8-752-337-41 | IC CXK1206M | |
| IC213 | 8-759-987-19 | IC CXD1228Q | |
| IC214 | 8-759-242-68 | IC TC7W32F | |
| IC215 | 8-759-242-74 | IC TC7W04F | |
| IC217 | 8-759-907-81 | IC SN74LS221NS | |
| IC218 | 8-759-232-32 | IC TC74HC74AF | |
| IC220 | 8-759-032-01 | IC TC74HC00AF | |
| IC230 | 8-759-242-74 | IC TC7W04F | |
| IC301 | 8-759-987-18 | IC CXD1227Q | |
| IC302 | 8-752-334-64 | IC CXD1171M | |
| IC303 | 8-752-334-64 | IC CXD1171M | |
| IC304 | 8-759-987-20 | IC CXD1229Q | |
| IC305 | 8-752-306-51 | IC CX23065A | |
| IC308 | 8-759-242-74 | IC TC7W04F | |
| IC309 | 8-759-242-76 | IC TC7W08F | |
| IC310 | 8-759-242-68 | IC TC7W32F | |
| IC311 | 8-759-233-18 | IC TC74HC374AF | |
| IC312 | 8-759-232-84 | IC TC74HC175AF | |

< COIL >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| L101 | 1-424-154-11 | COIL, LINE FILTER | |
| L102 | 1-424-154-11 | COIL, LINE FILTER | |
| L105 | 1-424-090-11 | COIL, LINE FILTER | |
| L106 | 1-424-090-11 | COIL, LINE FILTER | |
| L107 | 1-424-090-11 | COIL, LINE FILTER | |
| L110 | 1-424-090-11 | COIL, LINE FILTER | |
| L199 | 1-424-090-11 | COIL, LINE FILTER | |
| L201 | 1-424-090-11 | COIL, LINE FILTER | |
| L202 | 1-407-169-XX | INDUCTOR 100uH | |
| L203 | 1-424-090-11 | COIL, LINE FILTER | |
| L204 | 1-424-090-11 | COIL, LINE FILTER | |
| L205 | 1-424-090-11 | COIL, LINE FILTER | |
| L206 | 1-424-090-11 | COIL, LINE FILTER | |
| L207 | 1-408-966-21 | INDUCTOR 4.7uH | |
| L210 | 1-424-090-11 | COIL, LINE FILTER | |
| L211 | 1-424-090-11 | COIL, LINE FILTER | |
| L212 | 1-424-090-11 | COIL, LINE FILTER | |
| L214 | 1-424-090-11 | COIL, LINE FILTER | |
| L301 | 1-424-090-11 | COIL, LINE FILTER | |
| L304 | 1-424-090-11 | COIL, LINE FILTER | |
| L305 | 1-424-090-11 | COIL, LINE FILTER | |
| L306 | 1-424-090-11 | COIL, LINE FILTER | |
| L307 | 1-408-966-21 | INDUCTOR 4.7uH | |

< TRANSISTOR >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| Q181 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q182 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q183 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q184 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q185 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q186 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q201 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q202 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q203 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q204 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q205 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q207 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q209 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q210 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q221 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q301 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q302 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q304 | 8-729-100-66 | TRANSISTOR 2SC1623 | |

< RESISTOR >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| R101 | 1-216-061-00 | METAL CHIP 3.3K 5% 1/10W | |
| R102 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R114 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R117 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R120 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R121 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R122 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R123 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R124 | 1-216-061-00 | METAL CHIP 3.3K 5% 1/10W | |
| R129 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R130 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R131 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R133 | 1-216-097-00 | METAL CHIP 100K 5% 1/10W | |
| R135 | 1-216-635-11 | METAL CHIP 220 0.5% 1/10W | |
| R136 | 1-216-664-11 | METAL CHIP 3.6K 0.5% 1/10W | |
| R137 | 1-216-664-11 | METAL CHIP 3.6K 0.5% 1/10W | |
| R138 | 1-216-635-11 | METAL CHIP 220 0.5% 1/10W | |
| R140 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R141 | 1-216-061-00 | METAL CHIP 3.3K 5% 1/10W | |
| R142 | 1-216-061-00 | METAL CHIP 3.3K 5% 1/10W | |
| R145 | 1-216-067-00 | METAL CHIP 5.6K 5% 1/10W | |
| R156 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |
| R181 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R182 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |
| R183 | 1-216-053-00 | METAL CHIP 1.5K 5% 1/10W | |
| R184 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W | |
| R185 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W | |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R186 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R187 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R188 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W |
| R189 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R190 | 1-216-059-00 | METAL CHIP | 2.7K | 5% | 1/10W |
| R191 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R196 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R202 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R204 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R205 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R206 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R207 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R208 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R209 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R220 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R221 | 1-216-047-00 | METAL CHIP | 820 | 5% | 1/10W |
| R243 | 1-216-019-00 | METAL CHIP | 56 | 5% | 1/10W |
| R244 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R245 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R247 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R248 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R249 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R250 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R251 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R252 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W |
| R253 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R255 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R256 | 1-216-105-00 | METAL CHIP | 220K | 5% | 1/10W |
| R257 | 1-216-111-00 | METAL CHIP | 390K | 5% | 1/10W |
| R258 | 1-216-119-00 | METAL CHIP | 820K | 5% | 1/10W |
| R259 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R260 | 1-216-105-00 | METAL CHIP | 220K | 5% | 1/10W |
| R261 | 1-216-111-00 | METAL CHIP | 390K | 5% | 1/10W |
| R262 | 1-216-119-00 | METAL CHIP | 820K | 5% | 1/10W |
| R263 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R265 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W |
| R266 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R267 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R268 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R269 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W |
| R271 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W |
| R272 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R273 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R274 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R275 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R279 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W |
| R282 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R283 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R284 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R285 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R286 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R287 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R288 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R289 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R290 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R291 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R292 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R293 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R294 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W |
| R296 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R297 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R298 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R301 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R302 | 1-216-748-11 | METAL CHIP | 39K | 5% | 1/10W |
| R303 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R306 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W |
| R308 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R310 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W |
| R311 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R312 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R313 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R314 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R315 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R316 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R317 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R318 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R319 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R320 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R321 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R322 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R323 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R324 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R325 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R326 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R327 | 1-216-063-00 | METAL CHIP | 3.9K | 5% | 1/10W |
| R328 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R329 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R330 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R331 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R332 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R334 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R335 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R338 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R339 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R340 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R341 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R342 | 1-216-117-00 | METAL CHIP | 680K | 5% | 1/10W |
| R343 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R344 | 1-216-021-00 | METAL CHIP | 68 | 5% | 1/10W |
| R345 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R346 | 1-216-648-11 | METAL CHIP | 750 | 0.5% | 1/10W |
| R347 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R348 | 1-216-019-00 | METAL CHIP | 56 | 5% | 1/10W |
| R349 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R351 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R352 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R353 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R354 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R355 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R360 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R361 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R367 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R390 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R395 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W |
| R501 | 1-216-083-00 | METAL CHIP | 27K | 5% | 1/10W |
| R502 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R503 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R504 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R505 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R506 | 1-216-083-00 | METAL CHIP | 27K | 5% | 1/10W |
| R507 | 1-216-088-00 | METAL CHIP | 43K | 5% | 1/10W |
| R508 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R509 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R510 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R902 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W |
| R903 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R904 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R905 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R906 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R907 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R908 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R909 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R910 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R911 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R912 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R913 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R914 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R915 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R916 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R917 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R929 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R930 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R938 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R939 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R940 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | < VARIABLE RESISTOR > | |
| RV102 | 1-230-522-11 | RES, ADJ, METAL 4.7K (C D/A LEVEL) | |
| RV103 | 1-230-522-11 | RES, ADJ, METAL 4.7K (Y D/A LEVEL) | |
| RV181 | 1-230-521-11 | RES, ADJ, METAL 2.2K (V A/D LEVEL) | |
| RV201 | 1-230-521-11 | RES, ADJ, METAL 2.2K (INPUT CHROMA LEVEL | |
| RV202 | 1-230-521-11 | RES, ADJ, METAL 2.2K (INPUT Y LEVEL) | |
| | | < CRYSTAL > | |
| X101 | 1-577-117-21 | VIBRATOR, CRYSTAL (4.4336MHz) | |
| X201 | 1-567-733-11 | VIBRATOR, CRYSTAL (4FSC) | |
| X301 | 1-567-733-11 | VIBRATOR, CRYSTAL (4FSC) | |

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* A-7062-539-A PP-10 BOARD, COMPLETE

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(Ref.No 10,000 Series)

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|---|---|---|---|---|---|
| | 3-531-576-01 | RIVET | | | |
| | * 3-657-842-31 | SPACER (3X7.5) | | | |
| | 7-685-646-79 | SCREW +BVTP | 3X8 | TYPE2 IT-3 | |
| | 7-685-646-79 | SCREW +BVTP | 3X8 | TYPE2 | |
| | 7-682-550-04 | SCREW +BVTT | 3X12 (S) | | |
| | | < CAPACITOR > | | | |
| C001 | 1-124-570-11 | ELECT | 220uF | 20% | 16V |
| C002 | 1-124-570-11 | ELECT | 220uF | 20% | 16V |
| C003 | 1-124-570-11 | ELECT | 220uF | 20% | 16V |
| C004 | 1-124-570-11 | ELECT | 220uF | 20% | 16V |
| C005 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C006 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C007 | 1-124-570-11 | ELECT | 220uF | 20% | 16V |
| C008 | 1-124-570-11 | ELECT | 220uF | 20% | 16V |
| C009 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C010 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C011 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C012 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C013 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C014 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C015 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C016 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C017 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C018 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C019 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C020 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C021 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C022 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C023 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C024 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C025 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C026 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C027 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C028 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C029 | 1-163-119-00 | CERAMIC CHIP | 120PF | 5% | 50V |
| C030 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C031 | 1-163-119-00 | CERAMIC CHIP | 120PF | 5% | 50V |
| C032 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C033 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C034 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C035 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C036 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C037 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C101 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C102 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C103 | 1-163-113-00 | CERAMIC CHIP | 68PF | 5% | 50V |
| C104 | 1-163-089-00 | CERAMIC CHIP | 6PF | | 50V |
| C105 | 1-163-134-00 | CERAMIC CHIP | 510PF | 5% | 50V |
| C106 | 1-163-092-00 | CERAMIC CHIP | 9PF | 0.25PF | 50V |
| C107 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C108 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C109 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C110 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C111 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C112 | 1-163-227-11 | CERAMIC CHIP | 10PF | 5% | 50V |
| C113 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C114 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C115 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C116 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C117 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C121 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C122 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C123 | 1-163-097-00 | CERAMIC CHIP | 15PF | 5% | 50V |
| C126 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C127 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C128 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C130 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C131 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C132 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C133 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C134 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C135 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C136 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C137 | 1-126-163-11 | ELECT | 4.7uF | 20% | 50V |
| C138 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C139 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C140 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C141 | 1-126-163-11 | ELECT | 4.7uF | 20% | 50V |
| C143 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C144 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C145 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C146 | 1-163-113-00 | CERAMIC CHIP | 68PF | 5% | 50V |
| C147 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C148 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C149 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C150 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C161 | 1-163-109-00 | CERAMIC CHIP | 47PF | 5% | 50V |
| C199 | 1-163-109-00 | CERAMIC CHIP | 47PF | 5% | 50V |
| C201 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C202 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C203 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C204 | 1-163-092-00 | CERAMIC CHIP | 9PF | 0.25PF | 50V |
| C205 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C206 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C207 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C208 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C209 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C210 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C211 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C212 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C213 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C216 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C217 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C218 | 1-163-227-11 | CERAMIC CHIP | 10PF | 5% | 50V |
| C219 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C220 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C221 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C222 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C223 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C224 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C225 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C226 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C227 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C228 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C229 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C230 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C231 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C232 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C233 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C234 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C235 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C236 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C237 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C238 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C239 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C240 | 1-163-227-11 | CERAMIC CHIP | 10PF | 5% | 50V |
| C241 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C242 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C243 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C244 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |

When indicating parts by reference number, please include the board name.

# PP-10

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C245 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C246 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C254 | 1-163-227-11 | CERAMIC CHIP | 10PF | 5% | 50V |
| C291 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C292 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C301 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C302 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C303 | 1-163-113-00 | CERAMIC CHIP | 68PF | 5% | 50V |
| C304 | 1-163-089-00 | CERAMIC CHIP | 6PF | | 50V |
| C305 | 1-163-134-00 | CERAMIC CHIP | 510PF | 5% | 50V |
| C306 | 1-163-092-00 | CERAMIC CHIP | 9PF | 0.25PF | 50V |
| C307 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C308 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C309 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C310 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C311 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C312 | 1-163-227-11 | CERAMIC CHIP | 10PF | 5% | 50V |
| C313 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C314 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C315 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C316 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C317 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C321 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C322 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C323 | 1-163-097-00 | CERAMIC CHIP | 15PF | 5% | 50V |
| C324 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C325 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C326 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C327 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C328 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C330 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C331 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C332 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C333 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C334 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C335 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C336 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C337 | 1-126-163-11 | ELECT | 4.7uF | 20% | 50V |
| C338 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C339 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C340 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C341 | 1-126-163-11 | ELECT | 4.7uF | 20% | 50V |
| C343 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C344 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C345 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C346 | 1-163-113-00 | CERAMIC CHIP | 68PF | 5% | 50V |
| C347 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C348 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C349 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C350 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C351 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C352 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C354 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C355 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C356 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C357 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C358 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C359 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C360 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C361 | 1-163-109-00 | CERAMIC CHIP | 47PF | 5% | 50V |
| C399 | 1-163-109-00 | CERAMIC CHIP | 47PF | 5% | 50V |
| C401 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C402 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C403 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C404 | 1-163-092-00 | CERAMIC CHIP | 9PF | 0.25PF | 50V |
| C405 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C406 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C407 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C408 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C409 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C410 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C411 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C412 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C413 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C416 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C417 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C418 | 1-163-227-11 | CERAMIC CHIP | 10PF | 5% | 50V |
| C419 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C420 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C421 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C422 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C423 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C424 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C425 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C426 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C427 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C428 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C429 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C430 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C431 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C432 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C433 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C434 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C435 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C436 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C437 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C438 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C439 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C440 | 1-163-227-11 | CERAMIC CHIP | 10PF | 5% | 50V |
| C441 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C442 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C443 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C444 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C445 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C446 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C448 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C449 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C450 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C451 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C452 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C453 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C454 | 1-163-227-11 | CERAMIC CHIP | 10PF | 5% | 50V |
| C455 | 1-163-227-11 | CERAMIC CHIP | 10PF | 5% | 50V |
| C456 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C491 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C492 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C500 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C501 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C502 | 1-163-227-11 | CERAMIC CHIP | 10PF | 5% | 50V |
| C503 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C504 | 1-163-227-11 | CERAMIC CHIP | 10PF | 5% | 50V |
| C505 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C506 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C507 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C508 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C509 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C510 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C511 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C512 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C513 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C514 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C515 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C518 | 1-163-017-00 | CERAMIC CHIP | 0.0047uF | 5% | 50V |
| C519 | 1-163-017-00 | CERAMIC CHIP | 0.0047uF | 5% | 50V |
| C520 | 1-163-017-00 | CERAMIC CHIP | 0.0047uF | 5% | 50V |
| C521 | 1-163-017-00 | CERAMIC CHIP | 0.0047uF | 5% | 50V |
| C522 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C523 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C524 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C525 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C526 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C527 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C528 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C529 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C530 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C532 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C533 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C542 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C543 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C552 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C553 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C600 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C601 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C602 | 1-163-227-11 | CERAMIC CHIP | 10PF | 5% | 50V |
| C603 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C604 | 1-163-227-11 | CERAMIC CHIP | 10PF | 5% | 50V |
| C605 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C606 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C607 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C608 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C609 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C610 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C611 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C612 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C613 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C614 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C615 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C616 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C617 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C618 | 1-163-017-00 | CERAMIC CHIP | 0.0047uF | 5% | 50V |
| C619 | 1-163-017-00 | CERAMIC CHIP | 0.0047uF | 5% | 50V |
| C620 | 1-163-017-00 | CERAMIC CHIP | 0.0047uF | 5% | 50V |
| C621 | 1-163-017-00 | CERAMIC CHIP | 0.0047uF | 5% | 50V |
| C622 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C623 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C624 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C625 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C626 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C627 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C628 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C629 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C630 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C631 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C632 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C633 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C641 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C642 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C643 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C651 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C652 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C653 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C701 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C702 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C703 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C704 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C705 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |

When indicating parts by reference number, please include the board name.

# PP-10

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C706 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C707 | 1-163-137-00 | CERAMIC CHIP | 680PF | 5% | 50V |
| C708 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C709 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C710 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C711 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C712 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C713 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C714 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C715 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C716 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C717 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C718 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C719 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C720 | 1-163-100-00 | CERAMIC CHIP | 20PF | 5% | 50V |
| C721 | 1-163-125-00 | CERAMIC CHIP | 220PF | 5% | 50V |
| C722 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C771 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C772 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C773 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C774 | 1-163-100-00 | CERAMIC CHIP | 20PF | 5% | 50V |
| C775 | 1-163-125-00 | CERAMIC CHIP | 220PF | 5% | 50V |
| C780 | 1-163-227-11 | CERAMIC CHIP | 10PF | 5% | 50V |
| C782 | 1-163-227-11 | CERAMIC CHIP | 10PF | 5% | 50V |
| C801 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C802 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C803 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C804 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C805 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C806 | 1-126-301-11 | ELECT | 1uF | 20% | 50V |
| C808 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C810 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C811 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C812 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C813 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C815 | 1-163-227-11 | CERAMIC CHIP | 10PF | 5% | 50V |
| C816 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C817 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C818 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C819 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C820 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C821 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C822 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C823 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C824 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C825 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C826 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C827 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C828 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C829 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C830 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C831 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C832 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C833 | 1-163-096-00 | CERAMIC CHIP | 13PF | 5% | 50V |
| C834 | 1-163-241-11 | CERAMIC CHIP | 39PF | 5% | 50V |
| C835 | 1-163-116-00 | CERAMIC CHIP | 91PF | 5% | 50V |
| C837 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C838 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C839 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C840 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C841 | 1-163-095-00 | CERAMIC CHIP | 12PF | 5% | 50V |
| C842 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C843 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C844 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C845 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C846 | 1-163-095-00 | CERAMIC CHIP | 12PF | 5% | 50V |
| C847 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C848 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C849 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C850 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C851 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C852 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C853 | 1-163-115-00 | CERAMIC CHIP | 82PF | 5% | 50V |
| C854 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C855 | 1-163-115-00 | CERAMIC CHIP | 82PF | 5% | 50V |
| C856 | 1-163-099-00 | CERAMIC CHIP | 18PF | 5% | 50V |
| C857 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C858 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C859 | 1-163-109-00 | CERAMIC CHIP | 47PF | 5% | 50V |
| C860 | 1-163-109-00 | CERAMIC CHIP | 47PF | 5% | 50V |
| C861 | 1-163-109-00 | CERAMIC CHIP | 47PF | 5% | 50V |
| C862 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C863 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C864 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C865 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C866 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C867 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C868 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C869 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C870 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C871 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C872 | 1-163-096-00 | CERAMIC CHIP | 13PF | 5% | 50V |
| C873 | 1-163-241-11 | CERAMIC CHIP | 39PF | 5% | 50V |
| C874 | 1-163-116-00 | CERAMIC CHIP | 91PF | 5% | 50V |
| C880 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C881 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C882 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C884 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C885 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C886 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C887 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C888 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C889 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C890 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C901 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C902 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C903 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C904 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C905 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C906 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C907 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C908 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C909 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C910 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C911 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C912 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C913 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C914 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C915 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C916 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C917 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C918 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C919 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C920 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C921 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C922 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C923 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C924 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C925 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C926 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C927 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C928 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C929 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C930 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C932 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C933 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C934 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C935 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C936 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C937 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C938 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C939 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C940 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C941 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C942 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C946 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C947 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C948 | 1-126-163-11 | ELECT | 4.7uF | 20% | 50V |
| C949 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C950 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C951 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C952 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C953 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C954 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C955 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C956 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C957 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C958 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C959 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C960 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |

< CONNECTOR >

| Ref. No. | Part No. | Description |
|---|---|---|
| CN201 | * 1-560-892-00 | PIN, CONNECTOR 4P |
| CN202 | * 1-560-892-00 | PIN, CONNECTOR 4P |
| CN203 | * 1-560-892-00 | PIN, CONNECTOR 4P |
| CN204 | 1-506-475-11 | CONNECTOR 10P, MALE |
| CN205 | 1-506-473-11 | CONNECTOR 8P, MALE |
| CN206 | 1-506-473-11 | CONNECTOR 8P, MALE |
| CN207 | * 1-562-991-11 | SOCKET, CONNECTOR 22P |
| CN208 | 1-506-473-11 | CONNECTOR 8P, MALE |
| CN209 | 1-506-473-11 | CONNECTOR 8P, MALE |

< TRIMMER >

| Ref. No. | Part No. | Description |
|---|---|---|
| CV801 | 1-141-304-21 | CAP, TRIMMER 10PF |

< DIODE >

| Ref. No. | Part No. | Description | |
|---|---|---|---|
| D001 | 8-719-800-76 | DIODE | 1SS226 |
| D002 | 8-719-800-76 | DIODE | 1SS226 |
| D101 | 8-719-800-76 | DIODE | 1SS226 |
| D102 | 8-719-800-76 | DIODE | 1SS226 |
| D103 | 8-719-800-76 | DIODE | 1SS226 |
| D104 | 8-719-800-76 | DIODE | 1SS226 |
| D105 | 8-719-800-76 | DIODE | 1SS226 |
| D201 | 8-719-800-76 | DIODE | 1SS226 |
| D202 | 8-719-800-76 | DIODE | 1SS226 |
| D301 | 8-719-800-76 | DIODE | 1SS226 |
| D302 | 8-719-800-76 | DIODE | 1SS226 |
| D303 | 8-719-800-76 | DIODE | 1SS226 |
| D304 | 8-719-800-76 | DIODE | 1SS226 |
| D305 | 8-719-800-76 | DIODE | 1SS226 |
| D401 | 8-719-800-76 | DIODE | 1SS226 |
| D402 | 8-719-800-76 | DIODE | 1SS226 |
| D801 | 8-713-300-88 | DIODE | 1T33C-01 |
| D851 | 8-719-800-76 | DIODE | 1SS226 |
| D852 | 8-719-800-76 | DIODE | 1SS226 |
| D901 | 8-719-800-76 | DIODE | 1SS226 |

When indicating parts by reference number, please include the board name.

# PP-10

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | < DELAY LINE > | |
| DL101 | 1-415-643-11 | DL | |
| DL102 | 1-415-807-11 | DELAY LINE, LC | |
| DL103 | 1-415-807-11 | DELAY LINE, LC | |
| DL201 | 1-415-643-11 | DL | |
| DL202 | 1-415-807-11 | DELAY LINE, LC | |
| DL203 | 1-415-807-11 | DELAY LINE, LC | |
| DL301 | 1-415-643-11 | DL | |
| DL302 | 1-415-807-11 | DELAY LINE, LC | |
| DL303 | 1-415-807-11 | DELAY LINE, LC | |
| DL401 | 1-415-643-11 | DL | |
| DL402 | 1-415-807-11 | DELAY LINE, LC | |
| DL403 | 1-415-807-11 | DELAY LINE, LC | |
| DL780 | 1-415-551-11 | DELAY LINE 140NS | |
| DL802 | 1-415-806-11 | DELAY LINE, LC | |
| | | < FILTER > | |
| FL801 | 1-236-736-11 | FILTER, EMI | |
| FL802 | 1-236-736-11 | FILTER, EMI | |
| FL803 | 1-236-736-11 | FILTER, EMI | |
| FL804 | 1-236-736-11 | FILTER, EMI | |
| FL805 | 1-236-736-11 | FILTER, EMI | |
| FL806 | 1-236-736-11 | FILTER, EMI | |
| FL807 | 1-236-736-11 | FILTER, EMI | |
| | | < IC > | |
| IC001 | 8-759-144-82 | IC uPC2405HF | |
| IC002 | 8-759-604-47 | IC M5F7905 | |
| IC003 | 8-759-230-XX | IC TC74HC4053AF | |
| IC004 | 8-759-908-92 | IC TL084CNS | |
| IC005 | 8-759-231-93 | IC TC74HC4051AF | |
| IC006 | 8-759-100-96 | IC uPC4558G2 | |
| IC101 | 8-759-230-XX | IC TC74HC4053AF | |
| IC102 | 8-759-230-XX | IC TC74HC4053AF | |
| IC103 | 8-759-504-47 | IC TL026CPS | |
| IC104 | 8-759-908-92 | IC TL084CNS | |
| IC201 | 8-759-230-XX | IC TC74HC4053AF | |
| IC202 | 8-759-242-72 | IC TC7W00F | |
| IC203 | 8-759-030-55 | IC MC1496M | |
| IC204 | 8-759-230-XX | IC TC74HC4053AF | |
| IC205 | 8-759-030-55 | IC MC1496M | |
| IC301 | 8-759-230-XX | IC TC74HC4053AF | |
| IC302 | 8-759-230-XX | IC TC74HC4053AF | |
| IC303 | 8-759-504-47 | IC TL026CPS | |
| IC304 | 8-759-908-92 | IC TL084CNS | |
| IC305 | 8-759-030-55 | IC MC1496M | |
| IC306 | 8-759-230-XX | IC TC74HC4053AF | |
| IC401 | 8-759-230-XX | IC TC74HC4053AF | |
| IC402 | 8-759-242-72 | IC TC7W00F | |
| IC403 | 8-759-030-55 | IC MC1496M | |
| IC404 | 8-759-230-XX | IC TC74HC4053AF | |
| IC405 | 8-759-030-55 | IC MC1496M | |
| IC406 | 8-759-030-55 | IC MC1496M | |
| IC501 | 8-759-602-06 | IC M5109P | |
| IC502 | 8-759-112-66 | IC uPC812G2 | |
| IC503 | 8-759-100-94 | IC uPC358G2 | |
| IC601 | 8-759-602-06 | IC M5109P | |
| IC602 | 8-759-112-66 | IC uPC812G2 | |
| IC603 | 8-759-100-94 | IC uPC358G2 | |
| IC701 | 8-759-907-81 | IC SN74LS221NS | |
| IC702 | 8-759-100-93 | IC uPC393G2 | |
| IC703 | 8-759-907-81 | IC SN74LS221NS | |
| IC704 | 8-759-230-XX | IC TC74HC4053AF | |
| IC705 | 8-759-013-96 | IC MC74HC4316F | |
| IC706 | 8-759-242-74 | IC TC7W04F | |
| IC771 | 8-759-232-90 | IC TC74HC241AF | |
| IC772 | 8-759-242-74 | IC TC7W04F | |
| IC801 | 8-759-239-23 | IC TC74HC86AF | |
| IC802 | 8-759-907-81 | IC SN74LS221NS | |
| IC803 | 8-752-306-51 | IC CX23065A | |
| IC804 | 8-759-242-70 | IC TC7WU04F | |
| IC805 | 8-759-232-32 | IC TC74HC74AF | |
| IC806 | 8-759-603-56 | IC M51272FP | |
| IC807 | 8-759-230-XX | IC TC74HC4053AF | |
| IC808 | 8-759-239-23 | IC TC74HC86AF | |
| IC851 | 8-759-907-81 | IC SN74LS221NS | |
| IC852 | 8-759-925-74 | IC SN74HC04NS | |
| IC853 | 8-759-925-78 | IC TC74HC10AF | |
| IC854 | 8-759-032-01 | IC TC74HC00AF | |
| IC855 | 8-759-925-72 | IC SN74HC02NS | |
| IC856 | 8-752-033-58 | IC V7040 | |
| IC857 | 8-759-240-80 | IC TC74HC153AF | |
| IC858 | 8-759-240-80 | IC TC74HC153AF | |
| IC859 | 8-759-242-68 | IC TC7W32F | |
| IC901 | 8-759-030-55 | IC MC1496M | |
| IC902 | 8-759-030-55 | IC MC1496M | |
| IC903 | 8-759-030-55 | IC MC1496M | |
| IC904 | 8-759-030-55 | IC MC1496M | |
| IC905 | 8-759-504-47 | IC TL026CPS | |
| IC906 | 8-759-230-XX | IC TC74HC4053AF | |
| IC907 | 8-759-100-95 | IC uPC324G2 | |
| IC908 | 8-759-980-44 | IC TL712CPS | |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | < COIL > | |
| L001 | 1-424-154-11 | COIL, LINE FILTER | |
| L002 | 1-424-154-11 | COIL, LINE FILTER | |
| L101 | 1-408-985-21 | INDUCTOR 180uH | |
| L301 | 1-408-985-21 | INDUCTOR 180uH | |
| L701 | 1-407-169-XX | INDUCTOR 100uH | |
| L771 | 1-407-169-XX | INDUCTOR 100uH | |
| L801 | 1-424-090-11 | COIL, LINE FILTER | |
| L802 | 1-408-975-21 | INDUCTOR 27uH | |
| L803 | 1-408-976-21 | INDUCTOR 33uH | |
| L804 | 1-408-973-21 | INDUCTOR 18uH | |
| L851 | 1-408-973-21 | INDUCTOR 18uH | |
| L852 | 1-408-981-21 | INDUCTOR 82uH | |
| L853 | 1-408-975-21 | INDUCTOR 27uH | |
| L854 | 1-408-976-21 | INDUCTOR 33uH | |
| L855 | 1-408-973-21 | INDUCTOR 18uH | |
| L901 | 1-408-985-21 | INDUCTOR 180uH | |
| | | < TRANSISTOR > | |
| Q003 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q006 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q007 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q008 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q009 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q010 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q011 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q012 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q013 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q014 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q015 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q016 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q017 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q018 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q019 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q020 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q021 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q022 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q023 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q024 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q025 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q101 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q102 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q103 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q104 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q105 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q106 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q107 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q108 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q109 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q110 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q111 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q112 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q113 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q114 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q116 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q117 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q118 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q119 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q120 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q121 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q122 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q123 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q124 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q125 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q126 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q127 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q201 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q202 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q203 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q204 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q205 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q206 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q207 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q208 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q209 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q210 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q211 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q212 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q213 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q214 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q215 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q216 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q217 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q218 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q219 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q220 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q221 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q223 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q224 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q301 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q302 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q303 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q304 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q305 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q306 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q307 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q308 | 8-729-100-66 | TRANSISTOR 2SC1623 | |

When indicating parts by reference number, please include the board name.

## PP-10

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| Q309 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q310 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q311 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q312 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q313 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q314 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q315 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q316 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q317 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q318 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q319 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q320 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q321 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q322 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q323 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q324 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q325 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q326 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q327 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q328 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q329 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q330 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q401 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q402 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q403 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q404 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q405 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q406 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q407 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q408 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q409 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q410 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q411 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q412 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q413 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q414 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q415 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q416 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q417 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q418 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q419 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q420 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q421 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q422 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q423 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q424 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q501 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q502 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q503 | 8-729-100-66 | TRANSISTOR 2SC1623 | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| Q504 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q505 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q506 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q507 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q508 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q601 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q602 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q603 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q604 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q605 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q606 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q607 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q608 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q701 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q771 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q780 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q801 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q802 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q804 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q805 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q806 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q807 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q808 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q809 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q851 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q852 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q853 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q856 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q857 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q858 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q859 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q860 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q861 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q862 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q891 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q892 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q893 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q894 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q901 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q902 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q903 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q904 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q905 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q906 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q907 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q908 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q909 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q910 | 8-729-216-22 | TRANSISTOR 2SA1162 | |
| Q911 | 8-729-216-22 | TRANSISTOR 2SA1162 | |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| Q912 | 8-729-100-66 | TRANSISTOR | 2SC1623 | | | |
| Q913 | 8-729-100-66 | TRANSISTOR | 2SC1623 | | | |
| Q914 | 8-729-100-66 | TRANSISTOR | 2SC1623 | | | |
| Q915 | 8-729-216-22 | TRANSISTOR | 2SA1162 | | | |
| Q916 | 8-729-100-66 | TRANSISTOR | 2SC1623 | | | |
| Q917 | 8-729-100-66 | TRANSISTOR | 2SC1623 | | | |
| Q918 | 8-729-100-66 | TRANSISTOR | 2SC1623 | | | |
| Q919 | 8-729-100-66 | TRANSISTOR | 2SC1623 | | | |
| Q920 | 8-729-100-66 | TRANSISTOR | 2SC1623 | | | |
| Q921 | 8-729-100-66 | TRANSISTOR | 2SC1623 | | | |
| Q922 | 8-729-216-22 | TRANSISTOR | 2SA1162 | | | |
| Q923 | 8-729-216-22 | TRANSISTOR | 2SA1162 | | | |
| Q924 | 8-729-100-66 | TRANSISTOR | 2SC1623 | | | |
| Q927 | 8-729-100-66 | TRANSISTOR | 2SC1623 | | | |
| Q928 | 8-729-100-66 | TRANSISTOR | 2SC1623 | | | |
| Q929 | 8-729-216-22 | TRANSISTOR | 2SA1162 | | | |
| Q930 | 8-729-216-22 | TRANSISTOR | 2SA1162 | | | |
| Q931 | 8-729-100-66 | TRANSISTOR | 2SC1623 | | | |
| Q932 | 8-729-100-66 | TRANSISTOR | 2SC1623 | | | |
| Q933 | 8-729-100-66 | TRANSISTOR | 2SC1623 | | | |
| | | < RESISTOR > | | | | |
| R001 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R002 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R003 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R004 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R005 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R006 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R007 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R008 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R009 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R010 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R011 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R012 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R013 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R014 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R015 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R016 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R017 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R018 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R019 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R020 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R021 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R022 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R023 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R024 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R025 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R026 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R027 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R028 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R029 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R030 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R031 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R033 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R034 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R036 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R037 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R038 | 1-216-673-11 | METAL CHIP | 8.2K | 0.5% | 1/10W | |
| R039 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R040 | 1-216-067-00 | METAL CHIP | 5.6K | 5% | 1/10W | |
| R041 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W | |
| R042 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W | |
| R043 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W | |
| R044 | 1-216-673-11 | METAL CHIP | 8.2K | 0.5% | 1/10W | |
| R045 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R046 | 1-216-067-00 | METAL CHIP | 5.6K | 5% | 1/10W | |
| R047 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W | |
| R048 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W | |
| R049 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W | |
| R050 | 1-216-673-11 | METAL CHIP | 8.2K | 0.5% | 1/10W | |
| R051 | 1-216-051-00 | METAL CHIP | 1.2K | 5% | 1/10W | |
| R052 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W | |
| R053 | 1-216-063-00 | METAL CHIP | 3.9K | 5% | 1/10W | |
| R054 | 1-216-673-11 | METAL CHIP | 8.2K | 0.5% | 1/10W | |
| R055 | 1-216-051-00 | METAL CHIP | 1.2K | 5% | 1/10W | |
| R056 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W | |
| R057 | 1-216-063-00 | METAL CHIP | 3.9K | 5% | 1/10W | |
| R058 | 1-216-673-11 | METAL CHIP | 8.2K | 0.5% | 1/10W | |
| R059 | 1-216-051-00 | METAL CHIP | 1.2K | 5% | 1/10W | |
| R060 | 1-216-047-00 | METAL CHIP | 820 | 5% | 1/10W | |
| R061 | 1-216-063-00 | METAL CHIP | 3.9K | 5% | 1/10W | |
| R062 | 1-216-665-11 | METAL CHIP | 3.9K | 0.5% | 1/10W | |
| R063 | 1-216-659-11 | METAL CHIP | 2.2K | 0.5% | 1/10W | |
| R064 | 1-216-673-11 | METAL CHIP | 8.2K | 0.5% | 1/10W | |
| R065 | 1-216-665-11 | METAL CHIP | 3.9K | 0.5% | 1/10W | |
| R066 | 1-216-659-11 | METAL CHIP | 2.2K | 0.5% | 1/10W | |
| R067 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W | |
| R068 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W | |
| R069 | 1-216-661-11 | METAL CHIP | 2.7K | 0.5% | 1/10W | |
| R070 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W | |
| R071 | 1-216-054-00 | METAL GLAZE | 1.6K | 5% | 1/10W | |
| R072 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W | |
| R073 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W | |
| R074 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W | |
| R075 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W | |
| R076 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W | |
| R077 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W | |
| R078 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W | |

When indicating parts by reference number, please include the board name.

## PP-10

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R079 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R080 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R081 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R082 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R083 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R084 | 1-216-054-00 | METAL GLAZE | 1.6K | 5% | 1/10W |
| R085 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R086 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R087 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R088 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R089 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R090 | 1-216-054-00 | METAL GLAZE | 1.6K | 5% | 1/10W |
| R091 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R092 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R093 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R094 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R095 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R096 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R097 | 1-216-063-00 | METAL CHIP | 3.9K | 5% | 1/10W |
| R098 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R099 | 1-216-063-00 | METAL CHIP | 3.9K | 5% | 1/10W |
| R100 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R101 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R102 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R103 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R104 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R105 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R106 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R107 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R108 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R109 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R110 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R111 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R112 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R113 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R114 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R115 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R116 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R117 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R118 | 1-216-055-00 | METAL CHIP | 1.8K | 5% | 1/10W |
| R119 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R120 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R121 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R122 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R123 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R124 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R125 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R132 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R133 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R134 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R135 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R136 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R137 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R138 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R139 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R140 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R143 | 1-216-673-11 | METAL CHIP | 8.2K | 0.5% | 1/10W |
| R144 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R145 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R146 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R147 | 1-216-067-00 | METAL CHIP | 5.6K | 5% | 1/10W |
| R148 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R149 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R150 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R151 | 1-216-063-00 | METAL CHIP | 3.9K | 5% | 1/10W |
| R152 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R153 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R154 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R155 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R156 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R157 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R158 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R159 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R160 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R161 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R162 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R163 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R164 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W |
| R165 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R166 | 1-216-660-11 | METAL CHIP | 2.4K | 0.5% | 1/10W |
| R167 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R168 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R169 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R170 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R171 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R172 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R173 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R174 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R175 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R176 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R177 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R178 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R179 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R180 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R181 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R182 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R183 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R184 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R185 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R197 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R198 | 1-216-078-00 | METAL GLAZE | 16K | 5% | 1/10W |
| R199 | 1-216-091-00 | METAL CHIP | 56K | 5% | 1/10W |
| R201 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R202 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R203 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R204 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R205 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R206 | 1-216-663-11 | METAL CHIP | 3.3K | 0.5% | 1/10W |
| R207 | 1-216-663-11 | METAL CHIP | 3.3K | 0.5% | 1/10W |
| R208 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R209 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R210 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R211 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R212 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R213 | 1-216-055-00 | METAL CHIP | 1.8K | 5% | 1/10W |
| R214 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R215 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R216 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R217 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R218 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R220 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R221 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R226 | 1-216-655-11 | METAL CHIP | 1.5K | 0.5% | 1/10W |
| R227 | 1-216-655-11 | METAL CHIP | 1.5K | 0.5% | 1/10W |
| R228 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R229 | 1-216-059-00 | METAL CHIP | 2.7K | 5% | 1/10W |
| R230 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R231 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R232 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | |
| R233 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R234 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R235 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R236 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R237 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R238 | 1-216-650-11 | METAL CHIP | 910 | 0.5% | 1/10W |
| R239 | 1-216-043-00 | METAL CHIP | 560 | 5% | 1/10W |
| R240 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R241 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R242 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R243 | 1-216-055-00 | METAL CHIP | 1.8K | 5% | 1/10W |
| R244 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R245 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R246 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R247 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R248 | 1-216-045-00 | METAL CHIP | 680 | 5% | 1/10W |
| R249 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R250 | 1-216-063-00 | METAL CHIP | 3.9K | 5% | 1/10W |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R251 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R252 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R253 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R254 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R255 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R256 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R257 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R258 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R259 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R260 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R261 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R262 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R263 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R264 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R265 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R266 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R267 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R268 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R269 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R270 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R271 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R272 | 1-216-067-00 | METAL CHIP | 5.6K | 5% | 1/10W |
| R273 | 1-216-647-11 | METAL CHIP | 680 | 0.5% | 1/10W |
| R274 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R275 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R276 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R277 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R278 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R279 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R280 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R281 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R282 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R293 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R294 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R295 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R296 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R300 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R301 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R302 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R303 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R304 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R305 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R306 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R307 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R308 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R309 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R310 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R311 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R312 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |

When indicating parts by reference number, please include the board name.

## PP-10

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R313 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R314 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R315 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R316 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R317 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R318 | 1-216-055-00 | METAL CHIP | 1.8K | 5% | 1/10W |
| R319 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R320 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R321 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R322 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R323 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R324 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R325 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R332 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R333 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R334 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R335 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R336 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R337 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R338 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R339 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R340 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R341 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R342 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R343 | 1-216-673-11 | METAL CHIP | 8.2K | 0.5% | 1/10W |
| R344 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R345 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R346 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R347 | 1-216-067-00 | METAL CHIP | 5.6K | 5% | 1/10W |
| R348 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R349 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R350 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R351 | 1-216-063-00 | METAL CHIP | 3.9K | 5% | 1/10W |
| R352 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R353 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R354 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R355 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R356 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R357 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R358 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R359 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R360 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R361 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R362 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R363 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R364 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W |
| R365 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R366 | 1-216-660-11 | METAL CHIP | 2.4K | 0.5% | 1/10W |
| R367 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R368 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R369 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R370 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R371 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R372 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R373 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R374 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R375 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R376 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R377 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R378 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R379 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R380 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R381 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R382 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R383 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R384 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R385 | 1-216-647-11 | METAL CHIP | 680 | 0.5% | 1/10W |
| R386 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R387 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R388 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R389 | 1-216-675-11 | METAL CHIP | 10K | 0.5% | 1/10W |
| R390 | 1-216-671-11 | METAL CHIP | 6.8K | 0.5% | 1/10W |
| R391 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R392 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R393 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R394 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R395 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R396 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R397 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R398 | 1-216-078-00 | METAL GLAZE | 16K | 5% | 1/10W |
| R399 | 1-216-091-00 | METAL CHIP | 56K | 5% | 1/10W |
| R401 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R402 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R403 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R404 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R405 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R406 | 1-216-663-11 | METAL CHIP | 3.3K | 0.5% | 1/10W |
| R407 | 1-216-663-11 | METAL CHIP | 3.3K | 0.5% | 1/10W |
| R408 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R409 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R410 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R411 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R412 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R413 | 1-216-055-00 | METAL CHIP | 1.8K | 5% | 1/10W |
| R414 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R415 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R416 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R417 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R418 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R420 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R421 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R426 | 1-216-655-11 | METAL CHIP | 1.5K | 0.5% | 1/10W |
| R427 | 1-216-655-11 | METAL CHIP | 1.5K | 0.5% | 1/10W |
| R428 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R429 | 1-216-059-00 | METAL CHIP | 2.7K | 5% | 1/10W |
| R430 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R431 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R432 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R433 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R434 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R435 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R436 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R437 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R438 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R439 | 1-216-043-00 | METAL CHIP | 560 | 5% | 1/10W |
| R440 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R441 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R442 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R443 | 1-216-055-00 | METAL CHIP | 1.8K | 5% | 1/10W |
| R444 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R445 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R446 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R447 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R448 | 1-216-045-00 | METAL CHIP | 680 | 5% | 1/10W |
| R449 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R450 | 1-216-063-00 | METAL CHIP | 3.9K | 5% | 1/10W |
| R451 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R452 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R453 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R454 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R455 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R456 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R457 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R458 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R459 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R460 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R463 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R464 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R465 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R466 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R467 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R468 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R469 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R470 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R471 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R472 | 1-216-067-00 | METAL CHIP | 5.6K | 5% | 1/10W |
| R473 | 1-216-647-11 | METAL CHIP | 680 | 0.5% | 1/10W |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R474 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R475 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R476 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R477 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R478 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R479 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R480 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R481 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R482 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R482 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R483 | 1-216-647-11 | METAL CHIP | 680 | 0.5% | 1/10W |
| R484 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R485 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R486 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R487 | 1-216-675-11 | METAL CHIP | 10K | 0.5% | 1/10W |
| R488 | 1-216-671-11 | METAL CHIP | 6.8K | 0.5% | 1/10W |
| R489 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R490 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R491 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R491 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R493 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R494 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R495 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R496 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R501 | 1-216-649-11 | METAL CHIP | 820 | 0.5% | 1/10W |
| R502 | 1-216-655-11 | METAL CHIP | 1.5K | 0.5% | 1/10W |
| R503 | 1-216-649-11 | METAL CHIP | 820 | 0.5% | 1/10W |
| R504 | 1-216-655-11 | METAL CHIP | 1.5K | 0.5% | 1/10W |
| R505 | 1-216-659-11 | METAL CHIP | 2.2K | 0.5% | 1/10W |
| R506 | 1-216-639-11 | METAL CHIP | 330 | 0.5% | 1/10W |
| R507 | 1-216-649-11 | METAL CHIP | 820 | 0.5% | 1/10W |
| R508 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R509 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R510 | 1-216-649-11 | METAL CHIP | 820 | 0.5% | 1/10W |
| R511 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R512 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R513 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R514 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R515 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R517 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R519 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R520 | 1-216-665-11 | METAL CHIP | 3.9K | 0.5% | 1/10W |
| R521 | 1-216-665-11 | METAL CHIP | 3.9K | 0.5% | 1/10W |
| R522 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R523 | 1-216-063-00 | METAL CHIP | 3.9K | 5% | 1/10W |
| R524 | 1-216-699-11 | METAL CHIP | 100K | 0.5% | 1/10W |
| R525 | 1-216-699-11 | METAL CHIP | 100K | 0.5% | 1/10W |
| R526 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R527 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |

When indicating parts by reference number, please include the board name.

## PP-10

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R531 | 1-216-051-00 | METAL CHIP | 1.2K | 5% | 1/10W |
| R532 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R533 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R534 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R541 | 1-216-047-00 | METAL CHIP | 820 | 5% | 1/10W |
| R542 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R543 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R544 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R551 | 1-216-047-00 | METAL CHIP | 820 | 5% | 1/10W |
| R552 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R553 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R554 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R601 | 1-216-649-11 | METAL CHIP | 820 | 0.5% | 1/10W |
| R602 | 1-216-655-11 | METAL CHIP | 1.5K | 0.5% | 1/10W |
| R603 | 1-216-649-11 | METAL CHIP | 820 | 0.5% | 1/10W |
| R604 | 1-216-655-11 | METAL CHIP | 1.5K | 0.5% | 1/10W |
| R605 | 1-216-659-11 | METAL CHIP | 2.2K | 0.5% | 1/10W |
| R606 | 1-216-639-11 | METAL CHIP | 330 | 0.5% | 1/10W |
| R607 | 1-216-649-11 | METAL CHIP | 820 | 0.5% | 1/10W |
| R608 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R609 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R610 | 1-216-649-11 | METAL CHIP | 820 | 0.5% | 1/10W |
| R611 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R612 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R613 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R614 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R615 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R617 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R619 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R620 | 1-216-665-11 | METAL CHIP | 3.9K | 0.5% | 1/10W |
| R621 | 1-216-665-11 | METAL CHIP | 3.9K | 0.5% | 1/10W |
| R622 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R623 | 1-216-063-00 | METAL CHIP | 3.9K | 5% | 1/10W |
| R624 | 1-216-699-11 | METAL CHIP | 100K | 0.5% | 1/10W |
| R625 | 1-216-699-11 | METAL CHIP | 100K | 0.5% | 1/10W |
| R626 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R627 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R631 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R632 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R633 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R634 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R641 | 1-216-051-00 | METAL CHIP | 1.2K | 5% | 1/10W |
| R642 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R643 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R644 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R651 | 1-216-051-00 | METAL CHIP | 1.2K | 5% | 1/10W |
| R652 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R653 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R654 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R701 | 1-216-059-00 | METAL CHIP | 2.7K | 5% | 1/10W |
| R702 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R703 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R704 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R705 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R706 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R707 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R708 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R709 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R710 | 1-216-055-00 | METAL CHIP | 1.8K | 5% | 1/10W |
| R711 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R712 | 1-216-055-00 | METAL CHIP | 1.8K | 5% | 1/10W |
| R713 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R714 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R715 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R716 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R717 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R718 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R719 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R731 | 1-216-067-00 | METAL CHIP | 5.6K | 5% | 1/10W |
| R732 | 1-216-067-00 | METAL CHIP | 5.6K | 5% | 1/10W |
| R733 | 1-216-067-00 | METAL CHIP | 5.6K | 5% | 1/10W |
| R771 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R772 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R773 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R774 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R775 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R780 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R781 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R782 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R783 | 1-216-635-11 | METAL CHIP | 220 | 0.5% | 1/10W |
| R784 | 1-216-627-11 | METAL CHIP | 100 | 0.5% | 1/10W |
| R785 | 1-216-629-11 | METAL CHIP | 120 | 0.5% | 1/10W |
| R786 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R787 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R788 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R789 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R790 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R801 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R803 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R804 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R805 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R806 | 1-216-047-00 | METAL CHIP | 820 | 5% | 1/10W |
| R807 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R808 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W |
| R809 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W |
| R810 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R811 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R812 | 1-216-031-00 | METAL CHIP | 180 | 5% | 1/10W |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R813 | 1-216-031-00 | METAL CHIP | 180 | 5% | 1/10W |
| R814 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R815 | 1-216-655-11 | METAL CHIP | 1.5K | 0.5% | 1/10W |
| R816 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R817 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R822 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R823 | 1-216-059-00 | METAL CHIP | 2.7K | 5% | 1/10W |
| R824 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R825 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R826 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R827 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R828 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R829 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R830 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R831 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R832 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R833 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R834 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R835 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R836 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R837 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R838 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R839 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R840 | 1-216-045-00 | METAL CHIP | 680 | 5% | 1/10W |
| R841 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R842 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R843 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R846 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R847 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R848 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R851 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R853 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R854 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R855 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R856 | 1-216-055-00 | METAL CHIP | 1.8K | 5% | 1/10W |
| R857 | 1-216-055-00 | METAL CHIP | 1.8K | 5% | 1/10W |
| R858 | 1-216-055-00 | METAL CHIP | 1.8K | 5% | 1/10W |
| R859 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R860 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R861 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R862 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R863 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R864 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R865 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R866 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R867 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R868 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R870 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R871 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R878 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R879 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R880 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R881 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R885 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R886 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R887 | 1-216-045-00 | METAL CHIP | 680 | 5% | 1/10W |
| R888 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R889 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R890 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R891 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R892 | 1-216-054-00 | METAL GLAZE | 1.6K | 5% | 1/10W |
| R893 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R894 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R895 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R896 | 1-216-054-00 | METAL GLAZE | 1.6K | 5% | 1/10W |
| R897 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R898 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R899 | 1-216-667-11 | METAL CHIP | 4.7K | 0.5% | 1/10W |
| R900 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R901 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R902 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R903 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R904 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R905 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R906 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R907 | 1-216-640-11 | METAL CHIP | 360 | 0.5% | 1/10W |
| R908 | 1-216-063-00 | METAL CHIP | 3.9K | 5% | 1/10W |
| R909 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R910 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R911 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R912 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R913 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R914 | 1-216-640-11 | METAL CHIP | 360 | 0.5% | 1/10W |
| R915 | 1-216-063-00 | METAL CHIP | 3.9K | 5% | 1/10W |
| R916 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R917 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R918 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R919 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R920 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R921 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R922 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R923 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R924 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R925 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R926 | 1-216-640-11 | METAL CHIP | 360 | 0.5% | 1/10W |
| R927 | 1-216-063-00 | METAL CHIP | 3.9K | 5% | 1/10W |
| R928 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R929 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |

When indicating parts by reference number, please include the board name.

## PP-10

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R930 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R931 | 1-216-658-11 | METAL CHIP | 2K | 0.5% | 1/10W |
| R932 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R933 | 1-216-640-11 | METAL CHIP | 360 | 0.5% | 1/10W |
| R934 | 1-216-063-00 | METAL CHIP | 3.9K | 5% | 1/10W |
| R935 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R936 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R937 | 1-216-651-11 | METAL CHIP | 1K | 0.5% | 1/10W |
| R938 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R939 | 1-216-665-11 | METAL CHIP | 3.9K | 0.5% | 1/10W |
| R940 | 1-216-655-11 | METAL CHIP | 1.5K | 0.5% | 1/10W |
| R941 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R942 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R943 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R944 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R945 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R946 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R947 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R948 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R949 | 1-216-067-00 | METAL CHIP | 5.6K | 5% | 1/10W |
| R950 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R951 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R952 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R953 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R954 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R955 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R956 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R957 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R958 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R959 | 1-216-051-00 | METAL CHIP | 1.2K | 5% | 1/10W |
| R960 | 1-216-063-00 | METAL CHIP | 3.9K | 5% | 1/10W |
| R961 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R962 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R963 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R964 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R965 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R966 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R967 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R968 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R969 | 1-216-663-11 | METAL CHIP | 3.3K | 0.5% | 1/10W |
| R970 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R971 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R972 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R973 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R975 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R976 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R977 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R978 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R979 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R980 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R981 | 1-216-659-11 | METAL CHIP | 2.2K | 0.5% | 1/10W |
| R982 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W |
| R983 | 1-216-667-11 | METAL CHIP | 4.7K | 0.5% | 1/10W |
| R984 | 1-216-671-11 | METAL CHIP | 6.8K | 0.5% | 1/10W |
| R985 | 1-216-675-11 | METAL CHIP | 10K | 0.5% | 1/10W |
| R986 | 1-216-675-11 | METAL CHIP | 10K | 0.5% | 1/10W |
| R987 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R988 | 1-216-673-11 | METAL CHIP | 8.2K | 0.5% | 1/10W |
| R989 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R990 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R991 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R992 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R993 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R994 | 1-216-649-11 | METAL CHIP | 820 | 0.5% | 1/10W |
| R995 | 1-216-661-11 | METAL CHIP | 2.7K | 0.5% | 1/10W |
| R997 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R998 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |

< VARIABLE RESISTOR >

| Ref. No. | Part No. | Description |
|---|---|---|
| RV002 | 1-230-521-11 | RES, ADJ, METAL 2.2K (JOYR-Y CENTER) |
| RV004 | 1-230-521-11 | RES, ADJ, METAL 2.2K (JOYB-Y CENTER) |
| RV005 | 1-230-521-11 | RES, ADJ, METAL 2.2K (HUER-Y GAIN) |
| RV006 | 1-230-521-11 | RES, ADJ, METAL 2.2K (HUER Y OFF SET) |
| RV007 | 1-230-521-11 | RES, ADJ, METAL 2.2K (HUEB-Y GAIN) |
| RV008 | 1-230-521-11 | RES, ADJ, METAL 2.2K (HUEB-Y OFFSET) |
| RV009 | 1-230-521-11 | RES, ADJ, METAL 2.2K (INSGAIN MAX) |
| RV010 | 1-230-521-11 | RES, ADJ, METAL 2.2K (INSGAIN MIN) |
| RV012 | 1-230-522-11 | RES, ADJ, METAL 4.7K (LGCONT DC GAIN) |
| RV013 | 1-230-531-11 | RES, ADJ, METAL GLAZE 220 |
| RV013 | | (LGCONT CENTER) |
| RV101 | 1-230-520-11 | RES, ADJ, METAL1K (NEGA AY LEVEL) |
| RV103 | 1-230-530-11 | RES, ADJ, METAL GLAZE 100 |
| RV103 | | (BC Y GAIN BALANCE) |
| RV201 | 1-230-522-11 | RES, ADJ, METAL 4.7K (NEGA A DEV) |
| RV202 | 1-230-520-11 | RES, ADJ, METAL 1K (NEGA AC LEVEL) |
| RV203 | 1-230-520-11 | RES, ADJ, METAL 1K (AC COR LEVEL) |
| RV204 | 1-230-520-11 | RES, ADJ, METAL 1K (AC BURST LEVEL) |
| RV205 | 1-230-531-11 | RES, ADJ, METAL GLAZE 220 |
| RV205 | | (BC C GAIN BALANCE) |
| RV301 | 1-230-520-11 | RES, ADJ, METAL 1K (NEGA BY LEVEL) |
| RV401 | 1-230-522-11 | RES, ADJ, METAL 4.7K (NEGA B DEV) |
| RV402 | 1-230-520-11 | RES, ADJ, METAL 1K (NEGA BC LEVEL) |
| RV403 | 1-230-520-11 | RES, ADJ, METAL 1K (BC COR LEVEL) |
| RV404 | 1-230-520-11 | RES, ADJ, METAL 1K (BC(PC)BURST LEVEL) |
| RV501 | 1-230-520-11 | RES, ADJ, METAL 1K (Y-LG BALANCE) |
| RV502 | 1-230-520-11 | RES, ADJ, METAL 1K (PY-LEVEL) |
| RV503 | 1-230-520-11 | RES, ADJ, METAL 1K (AY-LEVEL) |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| RV504 | 1-230-520-11 | RES, ADJ, METAL 1K (BC-LEVEL) | |
| RV601 | 1-230-520-11 | RES, ADJ, METAL 1K (C-LG BALANCE) | |
| RV602 | 1-230-520-11 | RES, ADJ, METAL 1K (PC-LEVEL) | |
| RV603 | 1-230-520-11 | RES, ADJ, METAL 1K (AC-LEVEL) | |
| RV604 | 1-230-520-11 | RES, ADJ, METAL 1K (BC-LEVEL) | |
| RV702 | 1-230-522-11 | RES, ADJ, METAL 4.7K (P SYNC-LEVEL) | |
| RV703 | 1-230-522-11 | RES, ADJ, METAL 4.7K (A SYNC-LEVEL) | |
| RV704 | 1-230-522-11 | RES, ADJ, METAL 4.7K (B SYNC-LEVEL) | |
| RV801 | 1-230-521-11 | RES, ADJ, METAL 2.2K (BURST-PHASE) | |
| RV802 | 1-230-519-11 | RES, ADJ, METAL 470 (BURST-1) | |
| RV803 | 1-230-519-11 | RES, ADJ, METAL 470 (BURST-2) | |
| RV806 | 1-230-520-11 | RES, ADJ, METAL 1K (C COR PHASE) | |
| RV851 | 1-230-521-11 | RES, ADJ, METAL 2.2K (BC-PHASE) | |
| RV852 | 1-230-521-11 | RES, ADJ, METAL 2.2K (BCC-LEVEL) | |
| RV853 | 1-230-521-11 | RES, ADJ, METAL 2.2K (BCY-LEVEL) | |

< CRYSTAL >

| Ref. No. | Part No. | Description |
|---|---|---|
| X801 | 1-567-733-11 | VIBRATOR, CRYSTAL (4FCS) |

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1-413-606-11 SWITCHING BLOCK (Ref.No 5.000 Series)
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< CAPACITOR >

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C01 | 1-136-165-00 | MYLAR | 0.1uF | 10% | 50V |
| C02 | 1-123-875-11 | ELECT | 10uF | 20% | 50V |
| C10 | 9-900-032-01 | CERAMIC | 220PF | | 1KV |
| C11 | 9-900-033-01 | CERAMIC | 100PF | | 1KV |
| C12 | 1-124-557-11 | ELECT | 1000uF | 20% | 25V |
| C13 | 9-900-034-01 | ELECT | 120uF | | 25V |
| C14 | 1-124-510-11 | ELECT | 220uF | 20% | 25V |
| C15 | 9-900-035-01 | ELECT | 120uF | | 25V |
| C16 | 9-900-036-01 | ELECT | 120uF | | 25V |
| C17 | 1-130-528-11 | MYLAR | 0.1uF | 10% | 50V |
| C18 | 1-130-528-11 | MYLAR | 0.1uF | 10% | 50V |
| C19 | 1-124-037-51 | ELECT | 220uF | 20% | 25V |
| C20 | 1-124-964-00 | ELECT | 2700uF | 20% | 16V |
| C21 | 1-124-964-00 | ELECT | 2700uF | 20% | 16V |
| C22 | 9-900-037-01 | CERAMIC | 1500PF | | 1KV |
| C23 | 1-124-964-00 | ELECT | 2700uF | 20% | 16V |
| C24 | 1-124-760-11 | ELECT | 2200uF | 20% | 10V |
| C25 | 1-124-760-11 | ELECT | 2200uF | 20% | 10V |
| C26 | 1-124-760-11 | ELECT | 2200uF | 20% | 10V |
| C28 | 1-126-103-11 | ELECT | 470uF | 20% | 10V |
| C29 | 1-126-103-11 | ELECT | 470uF | 20% | 10V |
| C30 | 1-126-103-11 | ELECT | 470uF | 20% | 10V |
| C32 | 9-900-038-01 | CERAMIC | 100PF | | 1KV |
| C50 | 1-162-168-00 | CERAMIC | 3300PF | 20% | 400V |
| C51 | 1-162-168-00 | CERAMIC | 3300PF | 20% | 400V |
| C52-1 | 1-162-168-00 | CERAMIC | 3300PF | 20% | 400V |
| C52-2 | 1-162-168-00 | CERAMIC | 3300PF | 20% | 400V |
| C53-1 | 1-162-168-00 | CERAMIC | 3300PF | 20% | 400V |
| C53-2 | 1-162-168-00 | CERAMIC | 3300PF | 20% | 400V |
| C53-3 | 1-162-168-00 | CERAMIC | 3300PF | 20% | 400V |
| C54 | 1-136-537-00 | MYLAR | 0.47uF | 20% | 250V |
| C55 | 1-136-937-11 | MYLAR | 0.47uF | 20% | 250V |
| C56 | 1-136-937-11 | MYLAR | 0.47uF | 20% | 250V |
| C60-1 | 9-900-039-01 | ELECT | 270uF | | 400V |
| C60-2 | 9-900-040-01 | ELECT | 270uF | | 400V |
| C67 | 9-900-041-01 | CERAMIC | 470PF | | 2KV |
| C70 | 1-126-147-00 | ELECT | 120uF | 20% | 63V |
| C71 | 1-123-875-11 | ELECT | 10uF | 20% | 50V |
| C72 | 1-136-157-00 | MYLAR | 0.022uF | 10% | 50V |
| C73 | 1-128-236-00 | ELECT | 27uF | 20% | 35V |
| C74 | 1-136-161-00 | MYLAR | 0.047uF | 10% | 50V |
| C75 | 1-136-153-00 | MYLAR | 0.01uF | 10% | 50V |
| C76 | 1-130-467-00 | MYLAR | 470PF | 10% | 50V |
| C77 | 1-136-165-00 | MYLAR | 0.1uF | 10% | 50V |

< CONNECTOR >

| Ref. No. | Part No. | Description |
|---|---|---|
| CN10 | * 1-560-891-00 | CONNECTOR 3P |
| CN20 | * 1-564-905-11 | CONNECTOR 9P |
| CN55 | * 1-564-687-11 | CONNECTOR 3P |

< CURRENT TRANSFORMER >

| Ref. No. | Part No. | Description |
|---|---|---|
| CT60 | 9-900-042-01 | CURRENT, TRANS T5A |

< DIODE >

| Ref. No. | Part No. | Description |
|---|---|---|
| D10 | 9-900-043-01 | DIODE D4LA20 |
| D11 | 9-900-044-01 | DIODE D1NL20 |
| D20 | 9-900-045-01 | DIODE S20LCA20 |
| D21 | 9-900-046-01 | DIODE D5LCA20 |
| D66 | 9-900-047-01 | DIODE DFG1A8 |
| D70 | 8-719-510-17 | DIODE S2LA20 |
| D71 | 9-900-048-01 | DIODE 1SS81 |
| D72 | 9-900-049-01 | DIODE 1SS81 |
| DZ70 | 8-719-902-22 | DIODE HZ22-2L |
| DZ81 | 8-719-110-58 | DIODE RD22ESB3 |
| DZ82 | 8-719-930-61 | DIODE HZ30-1 |

< DIODE >

| Ref. No. | Part No. | Description |
|---|---|---|
| RF60 | 8-719-510-22 | DIODE D3SB60 |

When indicating parts by reference number, please include the board name.

# SWITCHING BLOCK TS-120

| Ref. No. | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| | | < COIL > | | | | |
| L10 | 9-900-050-01 | INDUCTOR 15uH | | | | |
| L11 | 9-900-051-01 | INDUCTOR 15uH | | | | |
| L12 | 9-900-052-01 | INDUCTOR 15uH | | | | |
| L20 | 9-900-053-01 | INDUCTOR 10uH | | | | |
| L21 | 9-900-054-01 | INDUCTOR 10uH | | | | |
| L22 | 9-900-055-01 | INDUCTOR 10uH | | | | |
| L25 | 9-900-031-01 | BEADS | | | | |
| L52 | 9-900-056-01 | INDUCTOR 16mH 1.5A | | | | |
| L53 | 9-900-057-01 | INDUCTOR 16mH 1.5A | | | | |
| | | < IC > | | | | |
| M01 | 8-759-420-19 | IC AN1431T | | | | |
| M70 | 9-900-058-01 | IC M51977P | | | | |
| | | < PHOTO SENSOR > | | | | |
| PC70 | 9-900-059-01 | PHOTO SENSOR PC111 | | | | |
| PC71 | 9-900-060-01 | PHOTO SENSOR PC111 | | | | |
| PT60 | 9-900-061-01 | PHOTO SENSOR 8D-13 | | | | |
| PT61 | 9-900-062-01 | PHOTO SENSOR 8D-13 | | | | |
| | | < TRANSISTOR > | | | | |
| Q60 | 9-900-063-01 | TRANSISTOR | 2SK1081 | | | |
| Q70 | 8-729-904-24 | TRANSISTOR | 2SD1788 | | | |
| Q71 | 8-729-194-57 | TRANSISTOR | 2SC945 | | | |
| | | < RESISTOR > | | | | |
| R01 | 1-249-474-11 | CARBON | 1 | 5% | 1/2W | |
| R02 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R03 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R04 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | |
| R10 | 1-247-727-11 | CARBON | 10K | 5% | 1/2W | |
| R11 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | |
| R12 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | |
| R20 | 9-900-064-01 | CARBON | 10 | | 2W | F |
| R21 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R22 | 1-249-065-01 | CARBON | 68 | | 5W | |
| R23 | 1-249-485-11 | CARBON | 8.2 | 5% | 1/2W | |
| R55 | 9-900-066-01 | CARBON | 220K | | 1W | |
| R60 | 1-215-929-00 | METAL GLAZE | 100K | 5% | 3W | |
| R64 | 9-900-067-01 | CARBON | 0.56 | | 5W | |
| R67-1 | 1-215-911-00 | METAL GLAZE | 100K | 5% | 3W | |
| R67-2 | 1-215-911-00 | METAL GLAZE | 100K | 5% | 3W | |
| R69 | 1-249-438-11 | CARBON | 56K | 5% | 1/4W | |
| R70 | 1-215-857-11 | METAL GLAZE | 10 | 5% | 1W | |
| R72 | 1-249-396-11 | CARBON | 18 | 5% | 1/4W | |
| R73 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | |
| R74 | 1-249-434-11 | CARBON | 27K | 5% | 1/4W | |
| R75 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W | |
| R76 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R77 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R78 | 1-249-438-11 | CARBON | 56 | 5% | 1/4W | |
| R79 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W | |
| R80 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W | |
| R83 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W | |
| R84 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R99 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| | | < VARIABLE RESISTOR > | | | | |
| RV01 | 9-900-068-01 | RES, ADJ METAL 1K 0.3W | | | | |
| | | < SERGE ABSOBER > | | | | |
| SA55 | 9-900-069-01 | SERGE ABSOBER NV470D10 | | | | |
| | | < TRANSFORMER > | | | | |
| T60 | 9-900-070-01 | TRANSFORMER T-906006 | | | | |

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* A-6766-374-A TS-120 BOARD, COMPLETE
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(Ref. No 3,000 Series)

* 1-533-189-11 HOLDER, FUSE

| Ref. No. | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| | | < CAPACITOR > | | | | |
| C201 | 1-124-360-00 | ELECT | 1000uF | 20% | 16V | |
| C202 | 1-124-510-11 | ELECT | 220uF | 20% | 25V | |
| C203 | 1-124-510-11 | ELECT | 220uF | 20% | 25V | |
| C204 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C205 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C206 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| | | < CONNECTOR > | | | | |
| CN101 | * 1-564-905-11 | PIN, CONNECTOR 9P | | | | |
| CN102 | * 1-560-896-00 | PIN, CONNECTOR 8P | | | | |
| CN103 | * 1-560-894-00 | PIN, CONNECTOR 6P | | | | |
| CN104 | * 1-560-894-00 | PIN, CONNECTOR 6P | | | | |
| CN106 | * 1-560-891-00 | PIN, CONNECTOR 3P | | | | |
| CN107 | 1-508-900-00 | CONNECTOR (M) 2P | | | | |
| CN108 | * 1-560-890-00 | PIN, CONNECTOR 2P | | | | |
| | | < DIODE > | | | | |
| D201 | 8-719-200-02 | DIODE | 10E2 | | | |
| D202 | 8-719-200-02 | DIODE | 10E2 | | | |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | < FUSE > | |
| F201 | 1-532-078-00 | FUSE, TIME-LAG (T1A) | |
| F202 | 1-532-237-00 | FUSE, TIME-LAG (T3.15A) | |
| F203 | 1-532-203-00 | FUSE, TIME-LAG (T2A) | |
| F204 | 1-532-299-00 | FUSE, TIME-LAG (T5A) | |
| F205 | 1-532-350-00 | FUSE, TIME-LAG (T4A) | |
| F206 | 1-532-350-00 | FUSE, TIME-LAG (T4A) | |
| F207 | 1-532-286-00 | FUSE, TIME-LAG (T2.5A) | |
| | | < FILTER > | |
| FL201 | 1-424-133-11 | FILTER, NOISE | |
| FL202 | 1-424-133-11 | FILTER, NOISE | |
| | | < TRANSISTOR > | |
| Q201 | 8-729-904-24 | TRANSISTOR 2SD1788 | |
| Q202 | 8-729-904-24 | TRANSISTOR 2SD1788 | |
| | | < RESISTOR > | |
| R201 | 1-215-861-00 | METAL OXIDE 47 5% 1W | F |
| R202 | 1-249-437-11 | CARBON 47K 5% 1/4W | |
| R203 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R204 | 1-249-437-11 | CARBON 47K 5% 1/4W | |
| R205 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R206 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R207 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| | | < RELAY > | |
| RY201 | 1-515-685-21 | RELAY | |
| RY202 | 1-515-685-21 | RELAY | |
| RY203 | 1-515-685-21 | RELAY | |
| RY204 | 1-515-685-21 | RELAY | |
| RY205 | 1-515-685-21 | RELAY | |
| RY206 | 1-515-685-21 | RELAY | |

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| | | | |
|---|---|---|---|
| | * 1-637-726-12 | TS-121 BOARD (Ref.No 2,000 Series)<br>************ | |
| | 2-131-229-01 | PLATE, BLIND, CONNECTOR | |
| | 7-685-646-79 | SCREW +BVTP 3X8 TYPE2 IT-3 | |
| | 7-685-646-79 | SCREW +BVTP 3X8 TYPE2 | |
| | | < CONNECTOR > | |
| CNJ601 | 1-565-253-21 | CONNECTOR, ROUND TYPE 8P<br>(CONTROLLER TERMINAL) | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | < DIODE > | |
| D601 | 8-719-108-12 | DIODE RD9.1E-W | |
| D602 | 8-719-108-12 | DIODE RD9.1E-W | |
| D603 | 8-719-108-12 | DIODE RD9.1E-W | |
| D604 | 8-719-108-12 | DIODE RD9.1E-W | |
| D605 | 8-719-108-12 | DIODE RD9.1E-W | |
| D606 | 8-719-110-60 | DIODE RD24ES-B | |
| | | < FILTER > | |
| FL601 | 1-421-928-11 | FILTER, NOISE | |
| FL602 | 1-421-928-11 | FILTER, NOISE | |
| FL603 | 1-421-928-11 | FILTER, NOISE | |
| FL604 | 1-421-928-11 | FILTER, NOISE | |
| FL605 | 1-421-928-11 | FILTER, NOISE | |
| FL606 | 1-424-133-11 | FILTER, NOISE | |
| FL607 | 1-421-927-11 | FILTER, NOISE | |

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|---|---|---|---|
| | * 1-637-727-11 | TS-122 BOARD (Ref.No 1,000 Series)<br>************ | |
| | * 2-118-219-01 | HOLDER (S), LED | |
| | 2-118-268-01 | NUT (M9), HEXAGON | |
| | | < CAPACITOR > | |
| C501 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C502 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C503 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C504 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C505 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C506 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C507 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C508 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C509 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C510 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C511 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C512 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C513 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C514 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C515 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| | | < DIODE > | |
| D501 | 8-719-300-71 | DIODE SLR-34UR3 | |
| D502 | 8-719-940-80 | DIODE SLR-34PC3 | |
| D503 | 8-719-940-80 | DIODE SLR-34PC3 | |
| | | < IC > | |
| IC501 | 8-759-208-08 | IC TC4052BPHB | |

When indicating parts by reference number, please include the board name.

## TS-122 TS-123 TS-124

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | < TRANSISTOR > | |
| Q501 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q502 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q503 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| | | < RESISTOR > | |
| R501 | 1-247-834-11 | CARBON 1.3K 5% 1/4W | |
| R502 | 1-247-834-11 | CARBON 1.3K 5% 1/4W | |
| R503 | 1-247-834-11 | CARBON 1.3K 5% 1/4W | |
| R504 | 1-247-834-11 | CARBON 1.3K 5% 1/4W | |
| R505 | 1-249-410-11 | CARBON 270 5% 1/4W | |
| R507 | 1-249-410-11 | CARBON 270 5% 1/4W | |
| R508 | 1-249-410-11 | CARBON 270 5% 1/4W | |
| R509 | 1-249-410-11 | CARBON 270 5% 1/4W | |
| | | < VARIABLE RESISTOR > | |
| RV501 | 1-238-444-11 | RES, VAR, CARBON 1K (CHROMINANCE B) | |
| RV502 | 1-238-444-11 | RES, VAR, CARBON 1K (LUMIANCE B) | |
| RV503 | 1-238-444-11 | RES, VAR, CARBON 1K (CHROMINANCE A) | |
| RV504 | 1-238-444-11 | RES, VAR, CARBON 1K (LUMIANCE A) | |
| RV505 | 1-238-445-11 | RES, VAR, CARBON 1K (SC) | |
| RV506 | 1-238-445-11 | RES, VAR, CARBON 1K (H) | |
| RV507 | 1-228-993-00 | RES, ADJ, METAL 4.7K (COLOR LEVEL) | |
| RV508 | 1-228-993-00 | RES, ADJ, METAL 4.7K (COLOR LEVEL) | |
| RV509 | 1-228-993-00 | RES, ADJ, METAL 4.7K (COLOR LEVEL) | |
| RV510 | 1-228-993-00 | RES, ADJ, METAL 4.7K (COLOR LEVEL) | |
| | | < SWITCH > | |
| S501 | 1-571-640-21 | SWITCH, SLIDE (PHASE (EXT LOCK)) | |
| S502 | 1-571-640-21 | SWITCH, SLIDE (OUTPUT MODE) | |

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* 1-637-728-11 TS-123 BOARD (Ref.No 1,000 Series)
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| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | < CONNECTOR > | |
| CN552 | 1-506-470-11 | CONNECTOR 5P, MALE | |
| | | < JACK > | |
| CNJ551 | 1-507-846-71 | JACK, PIN (B) (SOURCE INPUT 4) | |
| CNJ552 | 1-566-728-21 | TERMINAL, S (S VIDEO) | |
| | | < DIODE > | |
| D551 | 8-719-108-12 | DIODE RD9.1E-W | |
| D552 | 8-719-108-12 | DIODE RD9.1E-W | |
| | | < COIL > | |
| L16 | 1-424-090-21 | COIL, LINE FILTER | |
| L17 | 1-424-090-21 | COIL, LINE FILTER | |
| | | < RESISTOR > | |
| R551 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R552 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R553 | 1-249-425-11 | CARBON 4.7K 5% 1/4W | |
| R556 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R557 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R558 | 1-249-441-11 | CARBON 100K 5% 1/4W | |
| R559 | 1-249-441-11 | CARBON 100K 5% 1/4W | |
| | | < SWITCH > | |
| S551 | 1-571-640-11 | SWITCH, SLIDE (S/V SELECT) | |
| S552 | 1-571-640-11 | SWITCH, SLIDE (INPUT SELECT) | |

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* A-6766-383-A TS-124 BOARD, COMPLETE
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(Ref.No 2,000 Series)

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | 2-131-258-01 | BRACKET, S TERMINAL | |
| | 2-131-258-11 | BRACKET, S TERMINAL | |
| | 3-682-057-11 | SPACER (SMALL) | |
| | * 3-682-419-11 | HOLDER, P.C.B | |
| | | < CAPACITOR > | |
| C201 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C202 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C203 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C204 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C205 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C206 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C207 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C208 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C209 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C210 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C211 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C212 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C213 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C214 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C215 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C216 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C217 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C218 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C219 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C220 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| C221 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C222 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C223 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C224 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C225 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C226 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C227 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C228 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C229 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C230 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C231 | 1-124-126-00 | ELECT | 47uF | 20% | 10V | |
| C232 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C233 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C234 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C236 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C237 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C238 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C239 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C240 | 1-124-126-00 | ELECT | 47uF | 20% | 10V | |
| C241 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C242 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C244 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C245 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C246 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C247 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C248 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C249 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C250 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C251 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C252 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C253 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C254 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C255 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C256 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C257 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C258 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C259 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C260 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C261 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C262 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C263 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C264 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C265 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C266 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C267 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C268 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C269 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C270 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C271 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C272 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C273 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C274 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C275 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C276 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C277 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C278 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C279 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C280 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C281 | 1-124-471-00 | ELECT | 1000uF | 20% | 6.3V | |
| C282 | 1-124-471-00 | ELECT | 1000uF | 20% | 6.3V | |
| C283 | 1-124-471-00 | ELECT | 1000uF | 20% | 6.3V | |
| C284 | 1-124-471-00 | ELECT | 1000uF | 20% | 6.3V | |
| C285 | 1-124-471-00 | ELECT | 1000uF | 20% | 6.3V | |
| C286 | 1-124-471-00 | ELECT | 1000uF | 20% | 6.3V | |
| C287 | 1-124-471-00 | ELECT | 1000uF | 20% | 6.3V | |
| C288 | 1-124-471-00 | ELECT | 1000uF | 20% | 6.3V | |
| C289 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C290 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C291 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C292 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |

< CONNECTOR >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| CNJ201 | 1-507-792-31 | JACK (GP1 IN) | |
| CNJ205 | 1-507-888-41 | JACK, PIN 2P (SOURCE IN 4/EXT IN) | |
| CNJ206 | 1-507-846-91 | JACK, PIN (B) (SOURCE IN 1, 2, 3) | |
| CNJ207 | 1-507-846-91 | JACK, PIN (B) (FS OUT B/SELECT OUT A, B) | |
| CNJ208 | 1-507-846-91 | JACK, PIN (B) (PROCESSEDE OUT 3, 4/FS OUT A) | |
| CNJ209 | 1-507-846-91 | JACK, PIN (B) (MONTTOR OUT/PROCESSEDE OUT 1, 2) | |
| CNJ210 | 1-566-728-21 | TERMINAL, S (SOURCE IN 4) | |
| CNJ211 | 1-566-728-21 | TERMINAL, S (SOURCE IN 3) | |
| CNJ212 | 1-566-728-21 | TERMINAL, S (SOURCE IN 2) | |
| CNJ213 | 1-566-728-21 | TERMINAL, S (SOURCE IN 1) | |
| CNJ214 | 1-566-728-21 | TERMINAL, S (SELECT OUT B) | |
| CNJ215 | 1-566-728-21 | TERMINAL, S (SELECT OUT A) | |
| CNJ216 | 1-566-728-21 | TERMINAL, S (FS OUT B) | |
| CNJ217 | 1-566-728-21 | TERMINAL, S (FS OUT A) | |
| CNJ218 | 1-566-728-21 | TERMINAL, S (PROCESSEDE OUT 4) | |
| CNJ219 | 1-566-728-21 | TERMINAL, S (PROCESSEDE OUT 3) | |
| CNJ220 | 1-566-728-21 | TERMINAL, S (PROCESSEDE OUT 2) | |
| CNJ221 | 1-566-728-21 | TERMINAL, S (PROCESSEDE OUT 1) | |
| CNJ222 | 1-566-728-21 | TERMINAL, S (MONITOR OUT) | |

< IC >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| IC201 | 8-759-000-49 | IC uPD4066BC | |
| IC202 | 8-759-000-48 | IC TC4052BPHB | |
| IC203 | 8-759-000-49 | IC MC14066BCP | |
| IC204 | 8-759-000-48 | IC TC4052BPHB | |

When indicating parts by reference number, please include the board name.

# TS-124

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| IC205 | 8-743-890-00 | IC BX-389 | |
| IC206 | 8-743-890-00 | IC BX-389 | |
| IC207 | 8-743-890-00 | IC BX-389 | |
| IC208 | 8-743-890-00 | IC BX-389 | |
| IC209 | 8-743-890-00 | IC BX-389 | |
| IC210 | 8-743-890-00 | IC BX-389 | |
| IC211 | 8-743-890-00 | IC BX-389 | |
| | | < COIL > | |
| L201 | 1-424-033-21 | FILTER, NOISE | |
| L202 | 1-424-033-21 | FILTER, NOISE | |
| L203 | 1-424-033-21 | FILTER, NOISE | |
| L204 | 1-424-033-21 | FILTER, NOISE | |
| L205 | 1-424-033-21 | FILTER, NOISE | |
| L206 | 1-424-033-21 | FILTER, NOISE | |
| L207 | 1-424-033-21 | FILTER, NOISE | |
| L208 | 1-424-033-21 | FILTER, NOISE | |
| L209 | 1-424-033-21 | FILTER, NOISE | |
| L210 | 1-424-033-21 | FILTER, NOISE | |
| L211 | 1-424-033-21 | FILTER, NOISE | |
| L212 | 1-424-033-21 | FILTER, NOISE | |
| L213 | 1-424-033-21 | FILTER, NOISE | |
| L214 | 1-424-033-21 | FILTER, NOISE | |
| L215 | 1-424-033-21 | FILTER, NOISE | |
| L216 | 1-424-033-21 | FILTER, NOISE | |
| L217 | 1-424-033-21 | FILTER, NOISE | |
| L218 | 1-424-033-21 | FILTER, NOISE | |
| L219 | 1-424-033-21 | FILTER, NOISE | |
| L220 | 1-424-033-21 | FILTER, NOISE | |
| | | < TRANSISTOR > | |
| Q201 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q202 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q203 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q204 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q205 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| Q206 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| Q209 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q210 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q211 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q212 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| | | < RESISTOR > | |
| R205 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R206 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R207 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R208 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R209 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R210 | 1-247-804-11 | CARBON 75 5% 1/4W | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| R211 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R212 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R213 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R214 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R215 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R216 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R217 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R218 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R219 | 1-249-418-11 | CARBON 1.2K 5% 1/4W | |
| R220 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R221 | 1-249-418-11 | CARBON 1.2K 5% 1/4W | |
| R222 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R223 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R224 | 1-249-418-11 | CARBON 1.2K 5% 1/4W | |
| R225 | 1-249-418-11 | CARBON 1.2K 5% 1/4W | |
| R226 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R228 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R229 | 1-249-418-11 | CARBON 1.2K 5% 1/4W | |
| R230 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R232 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R233 | 1-249-418-11 | CARBON 1.2K 5% 1/4W | |
| R234 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R235 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R236 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R237 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R238 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R240 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R241 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R242 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R243 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R245 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R247 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R248 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R249 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R250 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R251 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R252 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R253 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R254 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R255 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R256 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R257 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R258 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R259 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R260 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R261 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R262 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R263 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R264 | 1-249-429-11 | CARBON 10K 5% 1/4W | |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| R265 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R266 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R267 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R268 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R269 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R270 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R271 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R272 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R273 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R274 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R275 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R276 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R277 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R278 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R279 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R280 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R281 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R282 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R283 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R284 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R285 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R286 | 1-247-804-11 | CARBON 75 5% 1/4W | |
| R287 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R290 | 1-249-381-11 | CARBON 1 5% 1/4W | |
| R291 | 1-249-381-11 | CARBON 1 5% 1/4W | |
| R292 | 1-249-381-11 | CARBON 1 5% 1/4W | |
| R293 | 1-249-381-11 | CARBON 1 5% 1/4W | |
| R294 | 1-249-381-11 | CARBON 1 5% 1/4W | |
| R295 | 1-249-381-11 | CARBON 1 5% 1/4W | |

< VARIABLE RESISTOR >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| RV201 | 1-228-990-00 | RES, ADJ, METAL 1K (SEL B C) | |
| RV202 | 1-228-990-00 | RES, ADJ, METAL 1K (SEL A C) | |
| RV203 | 1-228-990-00 | RES, ADJ, METAL 1K (P4C) | |
| RV204 | 1-228-990-00 | RES, ADJ, METAL 1K (P3C) | |
| RV205 | 1-228-990-00 | RES, ADJ, METAL 1K (P2C) | |
| RV206 | 1-228-990-00 | RES, ADJ, METAL 1K (P1C) | |
| RV207 | 1-228-990-00 | RES, ADJ, METAL 1K (MC) | |

< SWITCH >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| S201 | 1-571-640-21 | SWITCH, SLIDE (S/V SELECT) | |
| S202 | 1-571-640-21 | SWITCH, SLIDE (S/V SELECT) | |
| S203 | 1-571-640-21 | SWITCH, SLIDE (S/V SELECT) | |
| S204 | 1-571-640-21 | SWITCH, SLIDE (S/V SELECT) | |

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* A-6766-384-A TS-125 BOARD, COMPLETE

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(Ref.No 3,000 Series)

< CAPACITOR >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| C293 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C294 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C313 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C314 | 1-124-126-00 | ELECT 47uF 20% 10V | |
| C315 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C316 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C317 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C318 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C319 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C320 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C321 | 1-124-126-00 | ELECT 47uF 20% 10V | |
| C322 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C323 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C324 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C325 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C326 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C327 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C328 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C329 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C330 | 1-124-126-00 | ELECT 47uF 20% 10V | |
| C331 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C332 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C333 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C334 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C335 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C336 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C337 | 1-124-126-00 | ELECT 47uF 20% 10V | |
| C338 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C339 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C340 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C341 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C342 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C343 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C344 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C345 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C346 | 1-124-126-00 | ELECT 47uF 20% 10V | |
| C347 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C348 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C349 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C350 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C351 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C352 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C353 | 1-124-126-00 | ELECT 47uF 20% 10V | |
| C354 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |

| Ref. No. | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| C355 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C356 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C357 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C358 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C359 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C360 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C361 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C362 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C363 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C364 | 1-124-126-00 | ELECT | 47uF | 20% | 10V | |
| C365 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C366 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C367 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C369 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C370 | 1-124-126-00 | ELECT | 47uF | 20% | 10V | |
| C371 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C372 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C373 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C374 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C375 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C376 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C377 | 1-124-126-00 | ELECT | 47uF | 20% | 10V | |
| C378 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C379 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C380 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C381 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C382 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C383 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C384 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C385 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C386 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C387 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C388 | 1-124-126-00 | ELECT | 47uF | 20% | 10V | |
| C389 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C390 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C391 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C393 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C394 | 1-124-126-00 | ELECT | 47uF | 20% | 10V | |
| C395 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C396 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C397 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C398 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C399 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C400 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C401 | 1-124-126-00 | ELECT | 47uF | 20% | 10V | |
| C402 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C403 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C404 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C405 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |

| Ref. No. | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| C406 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C407 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C408 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C409 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C410 | 1-124-126-00 | ELECT | 47uF | 20% | 10V | |
| C411 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C412 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C413 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C414 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C415 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C416 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C417 | 1-124-126-00 | ELECT | 47uF | 20% | 10V | |
| C418 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C419 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C420 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C421 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C422 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C423 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C424 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C425 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C426 | 1-124-126-00 | ELECT | 47uF | 20% | 10V | |
| C427 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C428 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C429 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C430 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C431 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C432 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C433 | 1-124-126-00 | ELECT | 47uF | 20% | 10V | |
| C434 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C435 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C436 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C437 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C438 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C439 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C440 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C441 | 1-124-126-00 | ELECT | 47uF | 20% | 10V | |
| C442 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C443 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C444 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C445 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C446 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C447 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C448 | 1-124-126-00 | ELECT | 47uF | 20% | 10V | |
| C449 | 1-124-443-00 | ELECT | 100uF | 20% | 10V | |
| C450 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C451 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C452 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |
| C453 | 1-124-587-11 | ELECT | 220uF | 20% | 6.3V | |
| C454 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V | |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| C455 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C456 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C458 | 1-124-126-00 | ELECT 47uF 20% 10V | |
| C459 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C460 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C461 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C463 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C464 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C465 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C466 | 1-124-126-00 | ELECT 47uF 20% 10V | |
| C467 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C468 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C469 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C470 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C471 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C472 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C473 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C474 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| | | < CONNECTOR > | |
| CN301 | 1-506-475-11 | CONNECTOR 10P, MALE | |
| CN302 | 1-506-475-11 | CONNECTOR 10P, MALE | |
| CN303 | 1-506-477-11 | CONNECTOR 12P, MALE | |
| CN307 | 1-506-477-11 | CONNECTOR 12P, MALE | |
| CN309 | 1-506-475-11 | CONNECTOR 10P, MALE | |
| CN311 | 1-506-477-11 | CONNECTOR 12P, MALE | |
| CN312 | 1-506-474-11 | CONNECTOR 9P, MALE | |
| | | < IC > | |
| IC303 | 8-743-880-00 | IC BX-388 | |
| IC304 | 8-743-880-00 | IC BX-388 | |
| IC305 | 8-743-880-00 | IC BX-388 | |
| IC306 | 8-743-880-00 | IC BX-388 | |
| IC307 | 8-743-880-00 | IC BX-388 | |
| IC308 | 8-743-880-00 | IC BX-388 | |
| IC309 | 8-743-880-00 | IC BX-388 | |
| IC310 | 8-743-880-00 | IC BX-388 | |
| IC311 | 8-743-890-00 | IC BX-389 | |
| IC312 | 8-743-890-00 | IC BX-389 | |
| IC313 | 8-743-880-00 | IC BX-388 | |
| IC314 | 8-743-880-00 | IC BX-388 | |
| IC315 | 8-743-880-00 | IC BX-388 | |
| IC316 | 8-743-880-00 | IC BX-388 | |
| IC317 | 8-743-880-00 | IC BX-388 | |
| IC318 | 8-743-880-00 | IC BX-388 | |
| IC319 | 8-743-880-00 | IC BX-388 | |
| IC320 | 8-743-880-00 | IC BX-388 | |
| IC321 | 8-743-880-00 | IC BX-388 | |
| IC322 | 8-743-880-00 | IC BX-388 | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | < COIL > | |
| L305 | 1-424-033-21 | FILTER, NOISE | |
| L306 | 1-424-033-21 | FILTER, NOISE | |
| L307 | 1-424-033-21 | FILTER, NOISE | |
| L308 | 1-424-033-21 | FILTER, NOISE | |
| L309 | 1-424-033-21 | FILTER, NOISE | |
| L310 | 1-424-033-21 | FILTER, NOISE | |
| L311 | 1-424-033-21 | FILTER, NOISE | |
| L312 | 1-424-033-21 | FILTER, NOISE | |
| L313 | 1-424-033-21 | FILTER, NOISE | |
| L314 | 1-424-033-21 | FILTER, NOISE | |
| L315 | 1-424-033-21 | FILTER, NOISE | |
| L316 | 1-424-033-21 | FILTER, NOISE | |
| L317 | 1-424-033-21 | FILTER, NOISE | |
| L318 | 1-424-033-21 | FILTER, NOISE | |
| L319 | 1-424-033-21 | FILTER, NOISE | |
| L320 | 1-424-033-21 | FILTER, NOISE | |
| L321 | 1-424-033-21 | FILTER, NOISE | |
| L322 | 1-424-033-21 | FILTER, NOISE | |
| L323 | 1-424-033-21 | FILTER, NOISE | |
| L324 | 1-424-033-21 | FILTER, NOISE | |
| L325 | 1-424-033-21 | FILTER, NOISE | |
| L326 | 1-424-033-21 | FILTER, NOISE | |
| | | < TRANSISTOR > | |
| Q313 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q314 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q315 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q316 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q317 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q318 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q319 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q320 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| | | < RESISTOR > | |
| R301 | 1-249-414-11 | CARBON 560 5% 1/4W | |
| R302 | 1-249-414-11 | CARBON 560 5% 1/4W | |
| R303 | 1-249-414-11 | CARBON 560 5% 1/4W | |
| R304 | 1-249-414-11 | CARBON 560 5% 1/4W | |
| | | < VARIABLE RESISTOR > | |
| RV301 | 1-228-990-00 | RES, ADJ, METAL 1K (SEL B Y) | |
| RV302 | 1-228-990-00 | RES, ADJ, METAL 1K (SEL B V) | |
| RV303 | 1-228-990-00 | RES, ADJ, METAL 1K (SEL A Y) | |
| RV304 | 1-228-990-00 | RES, ADJ, METAL 1K (SEL A V) | |
| RV306 | 1-228-990-00 | RES, ADJ, METAL 1K (FS B VY) | |
| RV309 | 1-228-990-00 | RES, ADJ, METAL 1K (FS A VY) | |
| RV311 | 1-228-990-00 | RES, ADJ, METAL 1K (P4Y) | |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| RV312 | 1-228-990-00 | RES. ADJ. METAL 1K (P4V) | |
| RV313 | 1-228-990-00 | RES. ADJ. METAL 1K (P3Y) | |
| RV314 | 1-228-990-00 | RES. ADJ. METAL 1K (P3V) | |
| RV315 | 1-228-990-00 | RES. ADJ. METAL 1K (P2Y) | |
| RV316 | 1-228-990-00 | RES. ADJ. METAL 1K (P2V) | |
| RV317 | 1-228-990-00 | RES. ADJ. METAL 1K (P1Y) | |
| RV318 | 1-228-990-00 | RES. ADJ. METAL 1K (P1V) | |
| RV319 | 1-228-990-00 | RES. ADJ. METAL 1K (MY) | |
| RV320 | 1-228-990-00 | RES. ADJ. METAL 1K (MV) | |
| RV321 | 1-228-990-00 | RES. ADJ. METAL 1K (FS B VC) | |
| RV322 | 1-228-990-00 | RES. ADJ. METAL 1K (FS A VC) | |

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* A-6766-380-A TS-126 BOARD, COMPLETE
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(Ref. No 4,000 Series)

* 3-703-353-11 SUPPORT, PC BOARD
7-685-646-79 SCREW +BVTP 3X8 TYPE2 IT-3
7-685-646-79 SCREW +BVTP 3X8 TYPE2

< CAPACITOR >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| C401 | 1-124-570-11 | ELECT 220uF 20% 16V | |
| C402 | 1-162-851-11 | CERAMIC 0.1uF 10% 16V | |
| C403 | 1-124-570-11 | ELECT 220uF 20% 16V | |
| C404 | 1-162-851-11 | CERAMIC 0.1uF 10% 16V | |
| C405 | 1-162-851-11 | CERAMIC 0.1uF 10% 16V | |
| C406 | 1-124-570-11 | ELECT 220uF 20% 16V | |
| C407 | 1-162-851-11 | CERAMIC 0.1uF 10% 16V | |
| C408 | 1-124-570-11 | ELECT 220uF 20% 16V | |
| C425 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C426 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C427 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C428 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C429 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C430 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C431 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C432 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C433 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C434 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C435 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C436 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C437 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C438 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C439 | 1-162-286-31 | CERAMIC 220PF 10% 50V | |
| C440 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C441 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C442 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C443 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C444 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C445 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C446 | 1-162-286-31 | CERAMIC 220PF 10% 50V | |
| C447 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C448 | 1-124-902-00 | ELECT 0.47uF 20% 50V | |
| C449 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C450 | 1-162-215-31 | CERAMIC 47PF 5% 50V | |
| C451 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C452 | 1-124-907-11 | ELECT 10uF 20% 50V | |
| C453 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C454 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C455 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C456 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C457 | 1-162-215-31 | CERAMIC 47PF 5% 50V | |
| C458 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C459 | 1-124-907-11 | ELECT 10uF 20% 50V | |
| C460 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C461 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C462 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C463 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C474 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C475 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C480 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C481 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C482 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C483 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C484 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C485 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C486 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C487 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C502 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C503 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C504 | 1-124-902-00 | ELECT 0.47uF 20% 50V | |
| C505 | 1-124-902-00 | ELECT 0.47uF 20% 50V | |
| C506 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C507 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C508 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C509 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C510 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C511 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C512 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C513 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C514 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C515 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C516 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C517 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C518 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C519 | 1-124-443-00 | ELECT 100uF 20% 10V | |

When indicating parts by reference number, please include the board name.

| Ref. No. | | Part No. | Description | Remark |
|---|---|---|---|---|
| C520 | | 1-124-587-11 | ELECT 220uF 20% | 6.3V |
| C521 | | 1-161-379-00 | CERAMIC 0.01uF 20% | 25V |
| C522 | | 1-161-379-00 | CERAMIC 0.01uF 20% | 25V |
| C523 | | 1-124-587-51 | ELECT 220uF 20% | 6.3V |
| C524 | | 1-161-379-00 | CERAMIC 0.01uF 20% | 25V |
| C525 | | 1-124-443-00 | ELECT 100uF 20% | 10V |
| C526 | | 1-124-443-00 | ELECT 100uF 20% | 10V |
| C527 | | 1-124-443-00 | ELECT 100uF 20% | 10V |
| C550 | | 1-124-443-00 | ELECT 100uF 20% | 10V |
| C551 | | 1-124-443-00 | ELECT 100uF 20% | 10V |
| C601 | | 1-161-379-00 | CERAMIC 0.01uF 20% | 25V |
| C602 | | 1-161-379-00 | CERAMIC 0.01uF 20% | 25V |
| | | | < CONNECTOR > | |
| CN401 | | 1-506-482-11 | CONNECTOR 3P, MALE | |
| CN403 | | 1-506-491-11 | CONNECTOR 12P, MALE | |
| CN405 | * | 1-564-034-11 | PIN, CONNECTOR 9P | |
| CN406 | * | 1-564-032-00 | PIN, CONNECTOR 7P | |
| CN407 | * | 1-564-034-11 | PIN, CONNECTOR 9P | |
| CN408 | * | 1-564-037-11 | PIN, CONNECTOR 12P | |
| CN409 | * | 1-564-037-11 | PIN, CONNECTOR 12P | |
| CN411 | | 1-506-484-11 | CONNECTOR 5P, MALE | |
| CN412 | * | 1-564-028-00 | PIN, CONNECTOR 3P | |
| | | | < DIODE > | |
| D403 | | 8-719-911-19 | DIODE 1SS119 | |
| D405 | | 8-719-911-19 | DIODE 1SS119 | |
| | | | < FILTER > | |
| FL401 | | 1-421-927-11 | FILTER, NOISE | |
| | | | < HEAT SINK > | |
| HS401 | * | 4-880-403-11 | HEAT SINK | |
| HS402 | * | 4-880-403-11 | HEAT SINK | |
| | | | < IC > | |
| IC401 | | 8-759-144-82 | IC uPC2405HF | |
| IC402 | | 8-759-701-84 | IC NJM7905FA | |
| IC408 | | 8-743-890-00 | IC BX-389 | |
| IC409 | | 8-743-890-00 | IC BX-389 | |
| IC410 | | 8-759-040-53 | IC MC14053BCP | |
| IC411 | | 8-743-890-00 | IC BX-389 | |
| IC412 | | 8-743-890-00 | IC BX-389 | |
| IC413 | | 8-759-040-53 | IC MC14053BCP | |
| IC414 | | 8-743-890-00 | IC BX-389 | |
| IC415 | | 8-759-040-53 | IC MC14053BCP | |
| IC416 | | 8-759-803-70 | IC LC74HC08 | |
| IC419 | | 8-759-916-14 | IC uPD74HC04C | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| IC419 | 8-759-916-14 | IC SN74H04N | |
| | | < COIL > | |
| L403 | 1-424-033-21 | FILTER, NOISE | |
| L404 | 1-424-033-21 | FILTER, NOISE | |
| L405 | 1-424-033-21 | FILTER, NOISE | |
| L406 | 1-424-033-21 | FILTER, NOISE | |
| L407 | 1-408-413-00 | INDUCTOR 22uH | |
| L408 | 1-408-413-00 | INDUCTOR 22uH | |
| L409 | 1-424-033-21 | FILTER, NOISE | |
| L410 | 1-424-033-21 | FILTER, NOISE | |
| L501 | 1-424-154-11 | COIL, LINE FILTER | |
| L502 | 1-424-154-11 | COIL, LINE FILTER | |
| | | < TRANSISTOR > | |
| Q404 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q405 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q406 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q407 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| Q408 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| Q409 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| Q410 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q411 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q412 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q413 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q415 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q416 | 8-729-903-02 | TRANSISTOR DTA143XS | |
| Q418 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q419 | 8-729-903-02 | TRANSISTOR DTA143XS | |
| Q421 | 8-729-900-61 | TRANSISTOR DTA114ES | |
| Q422 | 8-729-900-61 | TRANSISTOR DTA114ES | |
| Q423 | 8-729-900-61 | TRANSISTOR DTA114ES | |
| Q424 | 8-729-900-61 | TRANSISTOR DTA114ES | |
| Q425 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q426 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q427 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q428 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q501 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q502 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q503 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q504 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q505 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q506 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q507 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q508 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q781 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q782 | 8-729-115-10 | TRANSISTOR 2SK105A-10 | |
| Q783 | 8-729-115-10 | TRANSISTOR 2SK105A-10 | |

When indicating parts by reference number, please include the board name.

< RESISTOR >

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R416 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R418 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W |
| R419 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R420 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R421 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W |
| R422 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R423 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R424 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R425 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W |
| R426 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R427 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R428 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R429 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R430 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R431 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R432 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R433 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R434 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R435 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R437 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R438 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R439 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R440 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R441 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R442 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R443 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R444 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W |
| R445 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R446 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R447 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R448 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R449 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R450 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R451 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R452 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R453 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R454 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W |
| R457 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R464 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W |
| R467 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R474 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R475 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R476 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R477 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R478 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W |
| R479 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R480 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W |
| R481 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R485 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R486 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R502 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R503 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R504 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R505 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R506 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W |
| R507 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W |
| R508 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R509 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R510 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R511 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R512 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R513 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R515 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R516 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R517 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R518 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R519 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W |
| R520 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W |
| R521 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R522 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R523 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R524 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R525 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R526 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R527 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R528 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R529 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R781 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R782 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R783 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R784 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R785 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |

< VARIABLE RESISTOR >

| Ref. No. | Part No. | Description | | Remark |
|---|---|---|---|---|
| RV401 | 1-228-991-00 | RES, ADJ, METAL | 2.2K | (EXT V.Y) |
| RV402 | 1-228-991-00 | RES, ADJ, METAL | 2.2K | (EXT V.C) |
| RV403 | 1-228-991-00 | RES, ADJ, METAL | 2.2K | (EDIT V.Y) |
| RV404 | 1-228-991-00 | RES, ADJ, METAL | 2.2K | (EDIT V.C) |
| RV405 | 1-230-719-11 | RES, ADJ, CARBON | 2.2K | (AB V.Y) |
| RV406 | 1-228-991-00 | RES, ADJ, METAL | 2.2K | (AB V.C) |
| RV407 | 1-230-719-11 | RES, ADJ, CARBON | 2.2K | (A.Y) |
| RV408 | 1-228-991-00 | RES, ADJ, METAL | 2.2K | (A.C) |
| RV409 | 1-230-719-11 | RES, ADJ, CARBON | 2.2K | (B.Y) |
| RV410 | 1-228-991-00 | RES, ADJ, METAL | 2.2K | (B.C) |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | < RELAY > | |
| RY403 | 1-515-614-21 | RELAY | |
| RY405 | 1-515-614-21 | RELAY | |

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* A-6766-381-A TS-127 BOARD, COMPLETE
**********************
(Ref.No 5,000 Series)

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | < CAPACITOR > | |
| C251 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C252 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C253 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C254 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C255 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C301 | 1-126-177-11 | ELECT 100uF 20% 10V | |
| C302 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C303 | 1-126-177-11 | ELECT 100uF 20% 10V | |
| C304 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C305 | 1-126-177-11 | ELECT 100uF 20% 10V | |
| C306 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C307 | 1-126-177-11 | ELECT 100uF 20% 10V | |
| C308 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C309 | 1-126-177-11 | ELECT 100uF 20% 10V | |
| C310 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C311 | 1-126-177-11 | ELECT 100uF 20% 10V | |
| C312 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C313 | 1-126-177-11 | ELECT 100uF 20% 10V | |
| C314 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C315 | 1-126-177-11 | ELECT 100uF 20% 10V | |
| C316 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C409 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C410 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C411 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C412 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C413 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C414 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C415 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C416 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C417 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C418 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C419 | 1-126-177-11 | ELECT 100uF 20% 10V | |
| C420 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C421 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C422 | 1-124-443-00 | ELECT 100uF 20% 10V | |
| C423 | 1-126-177-11 | ELECT 100uF 20% 10V | |
| C424 | 1-126-177-11 | ELECT 100uF 20% 10V | |
| C488 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C489 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C490 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C491 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C492 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C493 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C494 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C495 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C496 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C497 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C498 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C499 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| C500 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C501 | 1-161-379-00 | CERAMIC 0.01uF 20% 25V | |
| C882 | 1-124-587-11 | ELECT 220uF 20% 6.3V | |
| | | < DIODE > | |
| D401 | 8-719-911-19 | DIODE 1SS119 | |
| D402 | 8-719-911-19 | DIODE 1SS119 | |
| | | < IC > | |
| IC251 | 8-759-000-49 | IC MC14066BCP | |
| IC404 | 8-759-040-53 | IC TC4053BCP | |
| IC405 | 8-759-208-08 | IC TC4052BPHB | |
| IC406 | 8-759-000-49 | IC MC14066BCP | |
| IC407 | 8-759-000-49 | IC MC14066BCP | |
| | | < COIL > | |
| L251 | 1-424-033-21 | FILTER, NOISE | |
| L252 | 1-424-033-21 | FILTER, NOISE | |
| L301 | 1-424-033-21 | FILTER, NOISE | |
| L302 | 1-424-033-21 | FILTER, NOISE | |
| L303 | 1-424-033-21 | FILTER, NOISE | |
| L304 | 1-424-033-21 | FILTER, NOISE | |
| L401 | 1-424-033-21 | FILTER, NOISE | |
| L402 | 1-424-033-21 | FILTER, NOISE | |
| | | < TRANSISTOR > | |
| Q255 | 8-729-900-61 | TRANSISTOR DTA114ES | |
| Q256 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q303 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q304 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q402 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q403 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q414 | 8-729-115-12 | TRANSISTOR BN1L3M | |
| Q881 | 8-729-900-61 | TRANSISTOR DTA114ES | |
| Q882 | 8-729-900-61 | TRANSISTOR DTA114ES | |

When indicating parts by reference number, please include the board name.

< RESISTOR >

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R251 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R267 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R268 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R301 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R302 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R305 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R306 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R310 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R311 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R312 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R314 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R315 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R316 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R407 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R409 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R410 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R411 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R412 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R413 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R414 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |

< RELAY >

| Ref. No. | Part No. | Description |
|---|---|---|
| RY401 | 1-515-614-21 | RELAY |
| RY402 | 1-515-614-21 | RELAY |

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* A-7051-481-A VR-18 BOARD, COMPLETE (Ref.No 2,000 Series)
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(Includ CR-25, CR-26 BOARD)

2-118-268-01 NUT (M9), HEXAGON
* 3-317-119-00 HOLDER (B), LED
7-685-646-79 SCREW +BVTP 3X8 TYPE2 IT-3
7-685-646-79 SCREW +BVTP 3X8 TYPE2

< CAPACITOR >

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C501 | 1-161-051-00 | CERAMIC | 0.01uF | 10% | 50V |
| C502 | 1-161-051-00 | CERAMIC | 0.01uF | 10% | 50V |
| C503 | 1-161-051-00 | CERAMIC | 0.01uF | 10% | 50V |
| C504 | 1-161-051-00 | CERAMIC | 0.01uF | 10% | 50V |
| C505 | 1-161-051-00 | CERAMIC | 0.01uF | 10% | 50V |
| C506 | 1-161-051-00 | CERAMIC | 0.01uF | 10% | 50V |
| C507 | 1-161-051-00 | CERAMIC | 0.01uF | 10% | 50V |
| C508 | 1-161-051-00 | CERAMIC | 0.01uF | 10% | 50V |
| C509 | 1-161-051-00 | CERAMIC | 0.01uF | 10% | 50V |
| C510 | 1-161-051-00 | CERAMIC | 0.01uF | 10% | 50V |
| C511 | 1-161-051-00 | CERAMIC | 0.01uF | 10% | 50V |
| C512 | 1-124-242-00 | ELECT | 33uF | 20% | 25V |
| C513 | 1-124-242-00 | ELECT | 33uF | 20% | 25V |
| C514 | 1-161-051-00 | CERAMIC | 0.01uF | 10% | 50V |
| C516 | 1-161-051-00 | CERAMIC | 0.01uF | 10% | 50V |
| C517 | 1-161-051-00 | CERAMIC | 0.01uF | 10% | 50V |
| C518 | 1-161-051-00 | CERAMIC | 0.01uF | 10% | 50V |
| C519 | 1-161-051-00 | CERAMIC | 0.01uF | 10% | 50V |
| C520 | 1-162-179-11 | CERAMIC | 0.1uF | | 50V |
| C521 | 1-162-179-11 | CERAMIC | 0.1uF | | 50V |
| C522 | 1-162-179-11 | CERAMIC | 0.1uF | | 50V |
| C523 | 1-162-179-11 | CERAMIC | 0.1uF | | 50V |
| C524 | 1-162-179-11 | CERAMIC | 0.1uF | | 50V |
| C525 | 1-162-179-11 | CERAMIC | 0.1uF | | 50V |
| C526 | 1-162-179-11 | CERAMIC | 0.1uF | | 50V |
| C527 | 1-162-179-11 | CERAMIC | 0.1uF | | 50V |
| C528 | 1-162-179-11 | CERAMIC | 0.1uF | | 50V |
| C529 | 1-162-179-11 | CERAMIC | 0.1uF | | 50V |
| C530 | 1-162-179-11 | CERAMIC | 0.1uF | | 50V |
| C531 | 1-162-179-11 | CERAMIC | 0.1uF | | 50V |

< CONNECTOR >

| Ref. No. | Part No. | Description |
|---|---|---|
| CN501 | 1-506-481-11 | CONNECTOR 2P, MALE |
| CN502 | 1-506-483-21 | CONNECTOR 4P, MALE |
| CN503 | 1-506-489-11 | CONNECTOR 10P, MALE |
| CN504 | 1-506-487-11 | CONNECTOR 8P, MALE |
| CN505 | 1-506-482-11 | CONNECTOR 3P, MALE |
| CN506 | 1-506-485-11 | CONNECTOR 6P, MALE |

< DIODE >

| Ref. No. | Part No. | Description | |
|---|---|---|---|
| D501 | 8-719-940-80 | DIODE | SLR-34PC3 |
| D502 | 8-719-940-80 | DIODE | SLR-34PC3 |
| D503 | 8-719-940-80 | DIODE | SLR-34PC3 |
| D504 | 8-719-940-80 | DIODE | SLR-34PC3 |
| D505 | 8-719-940-80 | DIODE | SLR-34PC3 |
| D506 | 8-719-940-80 | DIODE | SLR-34PC3 |
| D507 | 8-719-940-80 | DIODE | SLR-34PC3 |
| D508 | 8-719-911-19 | DIODE | 1SS119 |
| D509 | 8-719-911-19 | DIODE | 1SS119 |
| D510 | 8-719-911-19 | DIODE | 1SS119 |
| D511 | 8-719-911-19 | DIODE | 1SS119 |
| D512 | 8-719-911-19 | DIODE | 1SS119 |
| D513 | 8-719-911-19 | DIODE | 1SS119 |
| D514 | 8-719-911-19 | DIODE | 1SS119 |
| D515 | 8-719-108-12 | DIODE | RD9.1EW |
| D516 | 8-719-108-12 | DIODE | RD9.1EW |
| D517 | 8-719-108-12 | DIODE | RD9.1EW |
| D518 | 8-719-108-12 | DIODE | RD9.1EW |
| D519 | 8-719-108-12 | DIODE | RD9.1EW |
| D520 | 8-719-108-12 | DIODE | RD9.1EW |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| D521 | 8-719-108-12 | DIODE RD9.1EW | |
| D522 | 8-719-108-12 | DIODE RD9.1EW | |
| D523 | 8-719-108-12 | DIODE RD9.1EW | |
| D524 | 8-719-108-12 | DIODE RD9.1EW | |
| D525 | 8-719-108-12 | DIODE RD9.1EW | |
| D526 | 8-719-108-12 | DIODE RD9.1EW | |

< IC >

| Ref. No. | Part No. | Description |
|---|---|---|
| IC501 | 8-759-143-71 | IC uPD74HC4051C |
| IC502 | 8-759-143-71 | IC uPD74HC4051C |
| IC503 | 8-759-900-08 | IC SN74LS08N |
| IC504 | 8-759-900-21 | IC SN74LS21N |

< RESISTOR >

| Ref. No. | Part No. | Description | | | |
|---|---|---|---|---|---|
| R501 | 1-249-412-11 | CARBON | 390 | 5% | 1/4W |
| R502 | 1-249-412-11 | CARBON | 390 | 5% | 1/4W |
| R503 | 1-249-412-11 | CARBON | 390 | 5% | 1/4W |
| R504 | 1-249-412-11 | CARBON | 390 | 5% | 1/4W |
| R505 | 1-249-412-11 | CARBON | 390 | 5% | 1/4W |
| R506 | 1-249-412-11 | CARBON | 390 | 5% | 1/4W |
| R507 | 1-249-412-11 | CARBON | 390 | 5% | 1/4W |
| R508 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R509 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R510 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |

< VARIABLE RESISTOR >

| Ref. No. | Part No. | Description |
|---|---|---|
| RV501 | 1-238-453-11 | RES, VAR, CARBON 10K/10K (POSITION) |
| RV502 | 1-238-453-11 | RES, VAR, CARBON 10K/10K (COLOR PLUS) |
| RV503 | 1-237-400-11 | RES, VAR, CARBON 10K (LUMINANCE LEVEL) |
| RV504 | 1-237-400-11 | RES, VAR, CARBON 10K (LUMINANCE RANGE) |
| RV506 | 1-237-400-11 | RES, VAR, CARBON 10K (CROMINANCE LEVEL) |
| RV507 | 1-237-400-11 | RES, VAR, CARBON 10K (EXT KEY KEY LEVEL) |
| RV508 | 1-237-400-11 | RES, VAR, CARBON 10K (CHROMA KEY INSERT GAIN) |

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CR-25 BOARD (Ref.No 2,000 Series)
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< SWITCH >

| Ref. No. | Part No. | Description |
|---|---|---|
| SW501 | 1-570-796-11 | SWITCH, ROTARY (BACK COLOR) |

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CR-26 BOARD (Ref.No 2,000 Series)
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< VARIABLE RESISTOR >

| Ref. No. | Part No. | Description |
|---|---|---|
| RV505 | 1-238-455-11 | RES, VAR, CARBON 10K/10K (CROMINANCE HUE) |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | * 1-617-831-11 | VR-26 BOARD (Ref.No 1,000 Series) | |

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< VARIABLE RESISTOR >

| Ref. No. | Part No. | Description |
|---|---|---|
| RV402 | 1-237-127-11 | RES, VAR, CARBON 5K (FADER VR) |

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MISCELLANEOUS
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| Ref. No. | Part No. | Description |
|---|---|---|
| 67 | 1-590-430-11 | WIRE, FLAT TYPE (22 CORE) |
| 68 | 1-590-429-11 | WIRE, FLAT TYPE (22 CORE) |
| 103 | * 1-533-189-11 | HOLDER, FUSE (103,152,270,) |
| 151 | 1-541-524-11 | MOTOR, DC FAN |
| 165 | ⚠ 1-574-056-11 | CORD, POWER |
| 169 | ⚠ 1-540-054-11 | INLET, AC |
| 208 | 1-237-127-11 | RES, VAR, CARBON 5K |
| F101 | ⚠ 1-532-237-00 | FUSE, TIM-LAG (T3.15A) |
| F201 | ⚠ 1-532-078-00 | FUSE, TIM-LAG (T1A) |
| F202 | ⚠ 1-532-237-00 | FUSE, TIM-LAG (T3.15A) |
| F203 | ⚠ 1-532-203-00 | FUSE, TIM-LAG (T2A) |
| F204 | ⚠ 1-532-299-00 | FUSE, TIM-LAG (T5A) |
| F205 | ⚠ 1-532-350-00 | FUSE, TIM-LAG (T4A) (F206) |
| F207 | ⚠ 1-532-286-00 | FUSE, TIM-LAG (T2.5A) |
| F701 | ⚠ 1-532-743-11 | FUSE, GLASS TUBE (2A) |

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ACCESSORY & PACKING MATERIAL
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| Part No. | Description |
|---|---|
| 1-551-086-31 | CORD, CONNECTION (VIDEO 1P) |
| 1-559-002-12 | CABLE 8P |
| 1-575-335-21 | CORD, CONNECTION |
| * 2-131-224-01 | CUSHION (UPPER) |
| * 2-131-225-01 | CUSHION (LOWER) |
| * 2-135-414-01 | SHEET, PROTECTION |
| 3-752-402-21 | MANUAL, INSTRUCTION (ENGLISH) |
| 3-752-402-31 | MANUAL, INSTRUCTION (FRENCH) |
| 3-752-402-41 | MANUAL, INSTRUCTION (SPANISH) |
| 3-752-402-51 | MANUAL, INSTRUCTION (GERMAN) |
| 3-752-402-61 | MANUAL, INSTRUCTION (DUTCH) |
| 3-752-402-71 | MANUAL, INSTRUCTION (SWEDISH) |
| 3-752-402-81 | MANUAL, INSTRUCTION (ARABIC) |
| 3-752-402-91 | MANUAL, INSTRUCTION (CHINESE) |
| * 3-941-562-01 | INDIVIDUAL CARTON |

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When indicating parts by reference number, please include the board name.

**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

## HARDWARE LIST

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| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| # 1 | 7-685-646-79 | SCREW +BVTP 3X8 TYPE2 IT-3 | |
| # 2 | 7-682-550-04 | SCREW +BVTT 3X12 (S) | |
| # 3 | 7-682-947-01 | SCREW +PSW 3X6 | |
| # 4 | 7-682-568-09 | SCREW +P 4X30 | |
| # 5 | 7-685-648-79 | SCREW +BVTP 3X12 TYPE2 IT-3 | |
| # 6 | 7-682-550-09 | SCREW +BVTT 3X12 (S) | |
| # 7 | 7-685-132-19 | SCREW +P 2.6X5 TYPE2 SLIT | |
| # 8 | 7-682-547-04 | SCREW +BVTT 3X6 (S) | |
| # 9 | 7-685-870-09 | SCREW +BVTT 3X5 (S) | |
| #10 | 7-682-547-09 | SCREW +B 3X6 | |
| #11 | 7-628-253-90 | SCREW +PS 2.6X4 | |
| #12 | 7-623-710-47 | WASHER 8, WABE TYPE | |
| #13 | 7-682-545-09 | SCREW +B 3X4 | |
| #14 | 7-684-024-04 | N 4, TYPE 2 | |
| #15 | 7-688-004-01 | W 4, SMALL | |
| #16 | 7-688-003-12 | W 3, MIDDLE | |
| #17 | 7-621-731-08 | SET-SCT, HEX. 2X2.5, FLAT POINT | |
| #18 | 7-682-646-09 | SCREW +PS 3X5 | |

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When indicating parts by reference number, please include the board name.

# SECTION 8

# ELECTRICAL ADJUSTMENTS

**When adjustment, refer to the adjustment related parts location diagrams from page 398.**

This section contains all items and instructions required for the electrical circuit adjustment.

## [Equipments]

1. Monitor TV
2. Oscilloscope (single or dual trace with bandwidth of more than 15 MHz delay mode)
3. Frequency counter (more than 6 digits)
4. PAL pattern generator
5. Digital voltmeter
6. Audio level meter
7. Vector scope
8. Audio generator
9. Audio attenuator

## [Set up for adjustments]

Unless otherwise specified, perform adjustments under the following settings (refer to 'Normal mode', hereafter).

Normal mode may be set as follows;

1. Turn on POWER switch on the main unit.
2. Press POWER button on the control unit to turn the power on.
3. Press BYPASS button to select the operation mode (BYPASS OFF).
4. Press 1 button of VIDEO INPUT SELECT LINE B on the control unit.
5. Flip the MIXING lever to A side.

EFFECT mode should be set in normal mode as follows;

1. BYPASS··························OFF
2. FRAME···························ON
3. EFFECT 1························NORMAL
4. EFFECT 2························NORMAL
5. EFFECT 3························NORMAL
6. AUDIO INPUT SELECT········VIDEO LINK
7. VIDEO INPUT SELECT
   - LINE A························1
   - LINE B························1
8. EFFECT (LINE A)···············ON
9. EFFECT (LINE B)···············ON
10. MIX······························ON
11. MONITOR SELECT
    - VIDEO·························PROCESS OUT
    - AUDIO·························PROCESS OUT

Set switches, levers and controls on the control unit as follows;

1. MIXING lever····················LINE A side
2. EXT LOCK switch···············INTERNAL
3. WIPE EDGE/EXT KEY EDGE switch ···································HARD
4. DEMO switch (Rear Panel)······OFF
5. Others·····························Mechanical center

Set switches and controls on the main unit as follows;

1. VIDEO LEVEL A and B
   - LUMINANCE control·········Mechanical center click
   - CHROMINANCE control····Mechanical center click
2. OUTPUT MODE switch·········LINE
3. PHASE (EXT LOCK)
   - H control·························Mechanical center
   - SC control·······················Mechanical center
   - 0° /180°························0°
4. Others································Arbitrary

## [Connections]

Unless otherwise specified, connect equipments as follows;

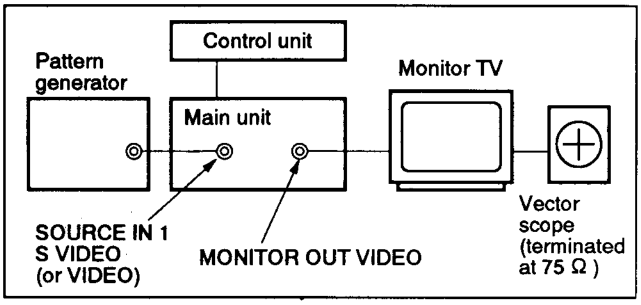


Fig. 8-1.

### [Color Bar Signals]

For Color Bar Signals in this adjustments, use S VIDEO or VIDEO output generated by the PAL pattern generator.

Check input signals by connecting an oscilloscope to SOURCE IN 1 S VIDEO terminal or VIDEO terminal on the TS-124 board.

1. Horizontal sync signal's amplitude should be within 300 ± 10 mV.
2. Video signal's amplitude should be within 700 ± 10 mV.
3. Burst signal's amplitude should be within 300 ± 10 mVp-p.
4. Amplitude of "cyan" or "red" should be within 663.8 ± 10 mVp-p.

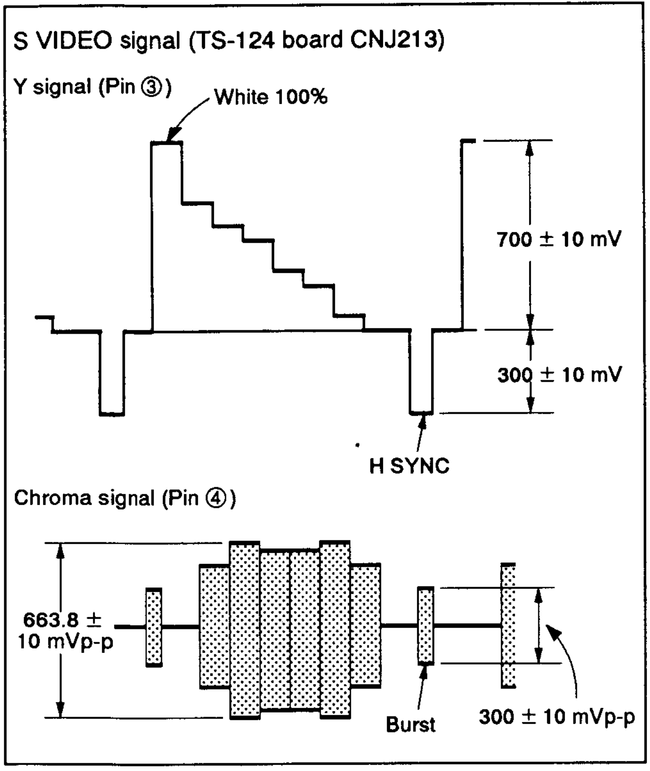

S VIDEO signal (TS-124 board CNJ213)
Y signal (Pin ③)
White 100%
700 ± 10 mV
300 ± 10 mV
H SYNC
Chroma signal (Pin ④)
663.8 ± 10 mVp-p
Burst
300 ± 10 mVp-p

Fig. 8-2.

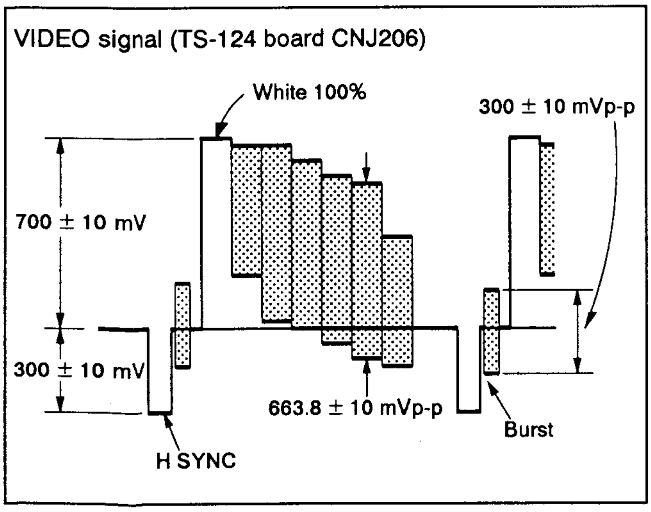

VIDEO signal (TS-124 board CNJ206)
White 100%
300 ± 10 mVp-p
700 ± 10 mV
300 ± 10 mV
663.8 ± 10 mVp-p
Burst
H SYNC

Fig. 8-3.

### [Input/Output Level Impedance]

| | |
|---|---|
| Video input | SOURCE IN 1/2/3/4, EXT IN (phono jack)<br>Input signal: 1 Vp-p, 75Ω unbalanced, sync. negative |
| Video output | PROCESSED OUT 1/2/3/4, FS OUT A/B, SELECT OUT A/B, MONITOR OUT (phono jack)<br>Output signal: 1 Vp-p, 75Ω unbalanced, sync. negative |
| S video input | SOURCE IN 1/2/3/4 (4-pin mini-DIN)<br>Luminance signal: 1 Vp-p, 75Ω unbalanced, sync. negative<br>Chroma signal: 0.3 Vp-p, 75Ω unbalanced |
| S video output | PROCESSED OUT 1/2/3/4, FS OUT A/B, SELECT OUT A/B, MONITOR OUT (4-pin mini-DIN)<br>Luminance signal: 1 Vp-p, 75Ω unbalanced, sync. negative<br>Chroma signal: 0.3 Vp-p, 75Ω unbalanced |
| Audio input | SOURCE IN 1/2/3/4, AUX IN (phono jack)<br>Input level: –7.5 dBs (0 dBs=0.775 Vrms)<br>Input impedance: 47 kΩ |
| Audio output: | PROCESSED OUT 1/2/3/4, FS OUT A/B, SELECT OUT A/B, MONITOR OUT (phono jack)<br>Specified output: –7.5 dBs (at 47 kΩ load)<br>Output impedance: 10 kΩ or less |

### [Adjustments Procedures]

As a rule perform adjustments in the procedures as follows;

1. Power Supply Circuit Adjustment
2. SYNC Generator Adjustment
3. Video I/O Circuit Adjustment 1
4. Y/C Separation Circuit Adjustment
5. Digital Process Circuit Adjustment
6. Analog Process Circuit Adjustment
7. Video I/O Circuit Adjustment 2
8. Edit Monitor, EXT Key Monitor Circuit Adjustment
9. Audio Circuit Adjustment

## 8-1. POWER SUPPLY CIRCUIT ADJUSTMENT

### 1. Power Supply Circuit Check (TS-120 board)

| | |
|---|---|
| Mode | Normal |
| Measuring Instrument | Digital voltmeter |
| +15V (D) check | |
| Measurement Point | TP103 |
| Specified Value | +16.0±2.0Vdc |
| +6V (D) check | |
| Measurement Point | TP104 |
| Specified Value | +6.0±0.5Vdc |
| SW.A +6V (D) check | |
| Measurement Point | TP105 |
| Specified Value | +6.0±0.5Vdc |
| +6V (A) check | |
| Measurement Point | TP101 |
| Specified Value | +6.0±0.5Vdc |
| SW.A +6V (A) check | |
| Measurement Point | TP106 |
| Specified Value | +6.0±0.5Vdc |
| -7.75V (A) check | |
| Measurement Point | TP102 |
| Specified Value | −8.0±0.5Vdc |
| SW.A -7.75V (A) check | |
| Measurement Point | TP107 |
| Specified Value | −8.0±0.5Vdc |
| SW.D -7.75V (A) check | |
| Measurement Point | TP109 |
| Specified Value | −8.0±0.5Vdc |
| SW.D +6V (A) check | |
| Measurement Point | TP108 |
| Specified Value | +6.0±0.5Vdc |

## 8-2. SYNC GENERATOR ADJUSTMENT

### 1. SYNC Generator FSC Adjustment (CB-30 Board)

| | |
|---|---|
| Measurement Point | W113 Pin ⑦ |
| Measuring Instrument | Frequency counter |
| Adjusting Element | CV101 |
| Specified Value | 4433619 ± 10 Hz |

Control unit setting:
1) EXT LOCK ························ INTERNAL

### 2. SYNC Generator Clock Adjustment (CB-30 Board)

| | |
|---|---|
| Measurement Point | TP104 |
| Measuring Instrument | Oscilloscope (DC range) |
| Adjusting Element | CV102 |
| Specified Value | 2.0 ± 0.2 Vdc |

Control unit setting:
1) EXT LOCK ························ INTERNAL

### 3. Display Position Adjustment (CB-30 Board)

| | |
|---|---|
| Mode | WIPE ( ⬒ ) |
| Signal | Cross hatch |
| Measurement Point | MONITOR OUT terminal |
| Measuring Instrument | Monitor TV |
| Adjusting Element | RV109 (CH B position)<br>RV110 (CH A position) |
| Specified Value | Minimize the shear (A) |

Control unit setting:

1) VIDEO INPUT SELECT
   LINE A ························ 1
   LINE B ························ 1
2) WIPE································ ON
3) WIPE PATTERN·················· ⬒

Adjusting method:

1) Set the mixing lever to line B side.
2) Adjust with RV109 so that the changing of horizontal direction position becomes minimum when SELECT B button of MONITOR SELECT VIDEO has been pressed, and also when PROCESS OUT button of that has been pressed.
3) Set the mixing lever to center.
4) Press PROCESS OUT button.
5) Adjust RV110 for aligning vertical lines.

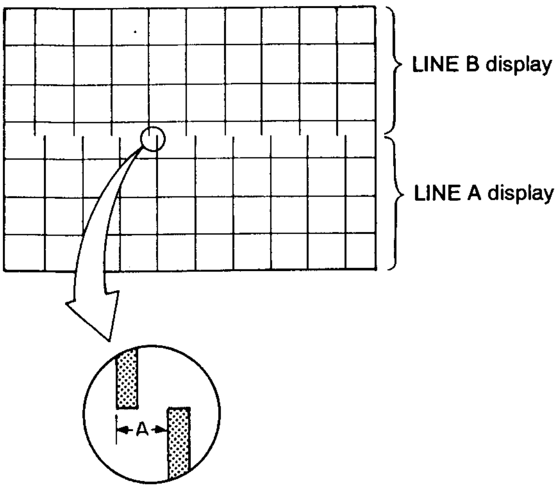


Fig. 8-4.

## 8-3. VIDEO I/O CIRCUIT ADJUSTMENT 1

**[Adjustment Procedures]**

1. MONITOR OUT Y Level Adjustment
2. MONITOR OUT CHROMA Level Adjustment
3. SELECT OUT Y Level Adjustment
4. SELECT OUT CHROMA Level Adjustment
5. PROCESSED OUT Y Level Adjustment
6. PROCESSED OUT CHROMA Level Adjustment
7. SELECT VIDEO Level Adjustment
8. MONITOR OUT VIDEO Level Adjustment
9. SELECT OUT VIDEO Level Adjustment
10. PROCESSED OUT VIDEO Level Adjustment

In adjustments 1 through 7, use S VIDEO signals for the input signal.
In adjustments 8 through 10, use VIDEO signals for the input signal.

### 1. MONITOR OUT Y Level Adjustment (TS-125 Board)

| | |
|---|---|
| Mode | BYPASS |
| Signal | Color bar (S VIDEO) |
| Measurement Point | MONITOR OUT Y terminal<br>(CNJ222 Pin ③) |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | RV319 (M Y) |
| Specified Value | A=1000 ± 10 mV |

**Note:** Y signal output terminal should be terminated at 75Ω .

Control unit setting:

1) BYPASS··························· ON

Main unit setting:

1) SOURCE IN 1 S/V SELECT···· S VIDEO

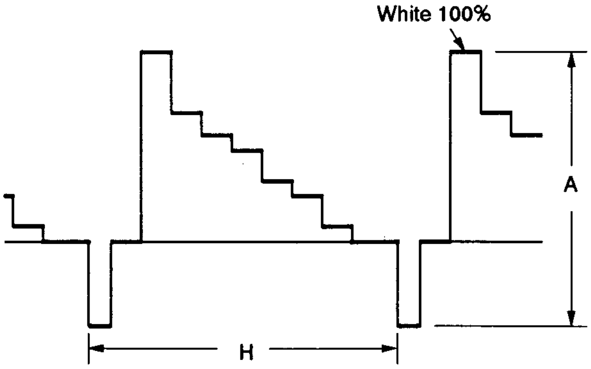


Fig. 8-5.

### 2. MONITOR OUT CHROMA Level Adjustment (TS-124 Board)

| | |
|---|---|
| Mode | BYPASS |
| Signal | Color bar (S VIDEO) |
| Measurement Point | MONITOR OUT CHROMA terminal (CNJ222 Pin ④) |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | RV207 (M C) |
| Specified Value | A=300 ± 10 mV |

**Note:** Chroma signal output terminal should be terminated at 75Ω.

Control unit setting:
1) BYPASS·····························ON

Main unit setting:
1) SOURCE IN 1 S/V SELECT····S VIDEO

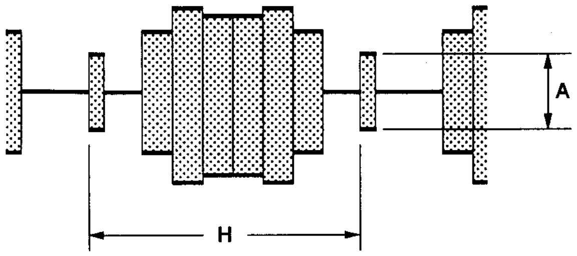


Fig. 8-6.

### 3. SELECT OUT Y Level Adjustment (TS-125 Board)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar (S VIDEO) |
| Measurement Point | 1. SELECT OUT A Y terminal (CNJ215 Pin ③)<br>2. SELECT OUT B Y terminal (CNJ214 Pin ③) |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | 1. RV303 (SEL A Y)<br>2. RV301 (SEL B Y) |
| Specified Value | A=1000 ± 10 mV |

**Note:** Each Y signal output terminal should be terminated at 75Ω.

Control unit setting:
1) BYPASS·····························OFF (OPERATION)
2) VIDEO INPUT SELECT
   LINE A··························1
   LINE B··························1

Main unit setting:
1) SOURCE IN 1 S/V SELECT····S VIDEO

Adjusting method:
1) Adjust appropriate RVs so that the Y signal level of each measurement point is within the specification.

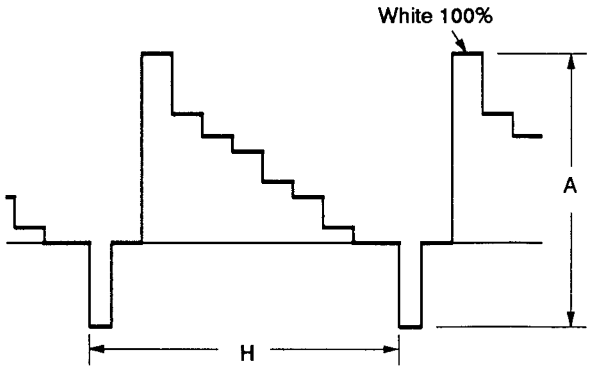


Fig. 8-7.

## 4. SELECT OUT CHROMA Level Adjustment (TS-124 Board)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar (S VIDEO) |
| Measurement Point | 1. SELECT OUT A CHROMA terminal (CNJ215 Pin ④)<br>2. SELECT OUT B CHROMA terminal (CNJ214 Pin ④) |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | 1. RV202 (SEL A C)<br>2. RV201 (SEL B C) |
| Specified Value | A=300 ± 10 mV |

**Note:** Each chroma signal output terminal should be terminated at 75Ω .

Control unit setting:
1) BYPASS·····························OFF (OPERATION)
2) VIDEO INPUT SELECT
    LINE A ··························· 1
    LINE B ··························· 1

Main unit setting:
1) SOURCE IN 1 S/V SELECT···· S VIDEO

Adjusting method:
1) Adjust appropriate RVs so that the burst signal level of each measurement point is within the specification.

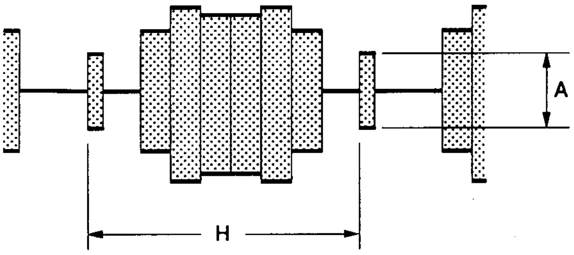


Fig. 8-8.

## 5. PROCESSED OUT Y Level Adjustment (TS-125 Board)

| | |
|---|---|
| Mode | BYPASS |
| Signal | Color bar (S VIDEO) |
| Measurement Point | 1. PROCESSED OUT 1 Y terminal (CNJ221 Pin ③)<br>2. PROCESSED OUT 2 Y terminal (CNJ220 Pin ③)<br>3. PROCESSED OUT 3 Y terminal (CNJ219 Pin ③)<br>4. PROCESSED OUT 4 Y terminal (CNJ218 Pin ③) |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | 1. RV317 (P1 Y)<br>2. RV315 (P2 Y)<br>3. RV313 (P3 Y)<br>4. RV311 (P4 Y) |
| Specified Value | A=1000 ± 10 mV |

**Note:** Each Y signal output terminal should be terminated at 75Ω .

Control unit setting:
1) BYPASS·····························ON

Main unit setting:
1) SOURCE IN 1 S/V SELECT···· S VIDEO
2) OUTPUT MODE ·················· LINE

Adjusting method:
1) Adjust appropriate RVs so that the Y signal level of each measurement point is within the specification.

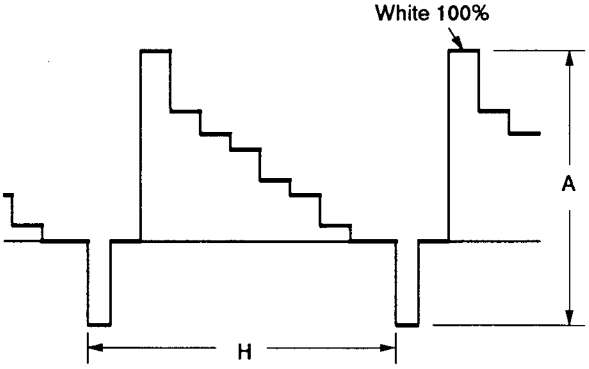


Fig. 8-9.

## 6. PROCESSED OUT CHROMA Level Adjustment (TS-124 Board)

| | |
|---|---|
| Mode | BYPASS |
| Signal | Color bar (S VIDEO) |
| Measurement Point | 1. PROCESSED OUT 1 CHROMA terminal (CNJ221 Pin ④)<br>2. PROCESSED OUT 2 CHROMA terminal (CNJ220 Pin ④)<br>3. PROCESSED OUT 3 CHROMA terminal (CNJ219 Pin ④)<br>4. PROCESSED OUT 4 CHROMA terminal (CNJ218 Pin ④) |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | 1. RV206 (P1 C)<br>2. RV205 (P2 C)<br>3. RV204 (P3 C)<br>4. RV203 (P4 C) |
| Specified Value | A=300 ± 10 mV |

**Note:** Each chroma signal output terminal should be terminated at 75Ω .

Control unit setting:
1) BYPASS······························ON

Main unit setting:
1) SOURCE IN 1 S/V SELECT···· S VIDEO
2) OUTPUT MODE·················· LINE

Adjusting method:
1) Adjust appropriate RVs so that the burst signal level of each measurement point is within the specification.

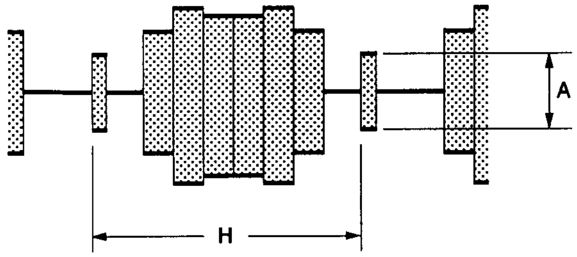


Fig. 8-10.

## 7. SELECT VIDEO Level Adjustment (TS-126 Board)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar (S VIDEO) |
| Measurement Point | MONITOR OUT VIDEO terminal (CNJ209) |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | 1. RV407 (A Y), RV408 (A C)<br>2. RV409 (B Y), RV410 (B C) |
| Specified Value | A=700 ± 10 mV<br>B=300 ± 10 mV |

**Note:** VIDEO output terminal should be terminated at 75Ω .

Control unit setting:
1) BYPASS······························OFF
2) VIDEO INPUT SELECT
   LINE A ···························· 1
   LINE B ···························· 1

Main unit setting:
1) SOURCE IN 1 S/V SELECT···· S VIDEO

Adjusting method:
1) Press the SELECT A button of MONITOR SELECT VIDEO on the control unit.
2) Adjust RV407 and RV408 so that the Y signal level (A) and the burst signal level (B) meet with specifications, respectively.
3) Press the SELECT B button of MONITOR SELECT VIDEO on the control unit.
4) Adjust RV409 and RV410 so that the Y signal level (A) and the burst signal level (B) meet with specifications, respectively.

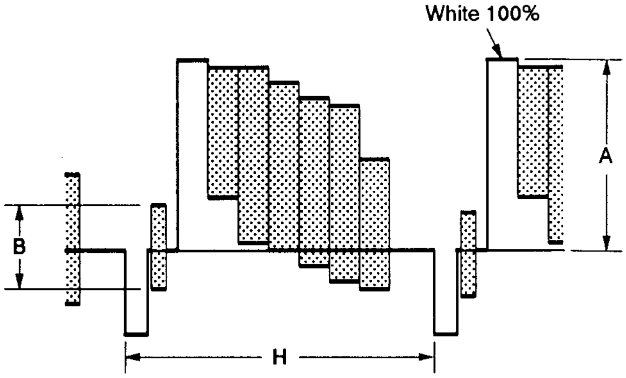


Fig. 8-11.

## 8. MONITOR OUT VIDEO Level Adjustment (TS-125 Board)

| | |
|---|---|
| Mode | BYPASS |
| Signal | Color bar (VIDEO) |
| Measurement Point | MONITOR OUT VIDEO terminal (CNJ209) |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | RV320 (M V) |
| Specified Value | A=1000 ± 10 mV |

**Note:** VIDEO signal output terminal should be terminated at 75Ω.

Control unit setting:

1) BYPASS································ON

Main unit setting:

1) SOURCE IN 1 S/V SELECT···· VIDEO

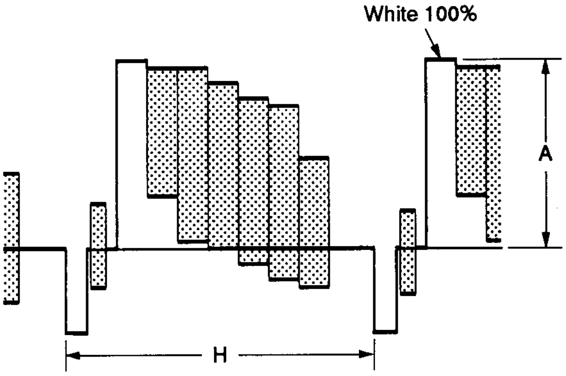


Fig. 8-12.

## 9. SELECT OUT VIDEO Level Adjustment (TS-125 Board)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar (VIDEO) |
| Measurement Point | 1. SELECT OUT A VIDEO terminal (CNJ207)<br>2. SELECT OUT B VIDEO terminal (CNJ207) |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | 1. RV304 (SEL A V)<br>2. RV302 (SEL B V) |
| Specified Value | A=1000 ± 10 mV |

**Note:** Each VIDEO signal output terminal should be terminated at 75Ω.

Control unit setting:

1) BYPASS································OFF (OPERATION)
2) VIDEO INPUT SELECT
   LINE A ·····························1
   LINE B ·····························1

Main unit setting:

1) SOURCE IN 1 S/V SELECT···· VIDEO

Adjusting method:

1) Adjust appropriate RVs so that the VIDEO signal level of each measurement point is within the specification.

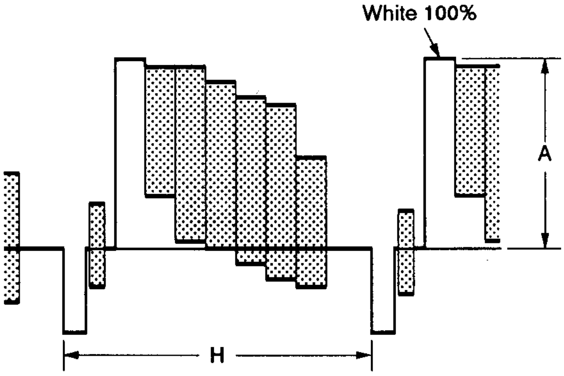


Fig. 8-13.

### 10. PROCESSED OUT VIDEO Level Adjustment (TS-125 Board)

| | |
|---|---|
| Mode | BYPASS |
| Signal | Color bar (VIDEO) |
| Measurement Point | 1. PROCESSED OUT 1 VIDEO terminal (CNJ209)<br>2. PROCESSED OUT 2 VIDEO terminal (CNJ209)<br>3. PROCESSED OUT 3 VIDEO terminal (CNJ208)<br>4. PROCESSED OUT 4 VIDEO terminal (CNJ208) |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | 1. RV318 (P1 V)<br>2. RV316 (P2 V)<br>3. RV314 (P3 V)<br>4. RV312 (P4 V) |
| Specified Value | A=1000 ± 10 mV |

**Note:** Each VIDEO signal output terminal should be terminated at 75Ω .

Control unit setting:
1) BYPASS·····························ON

Main unit setting:
1) SOURCE IN S/V SELECT······VIDEO
2) OUTPUT MODE··················LINE

Adjusting method:
1) Adjust appropriate RVs so that the VIDEO signal level of each measurement point is within the specification.

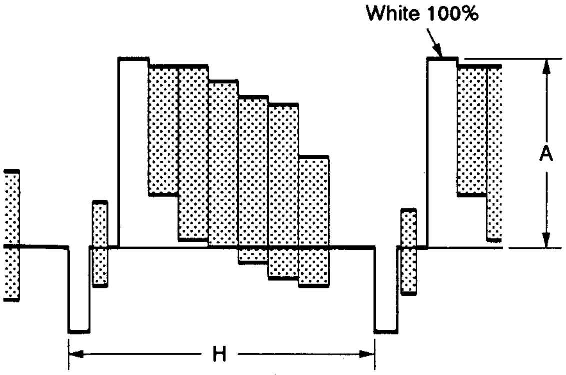


Fig. 8-14.

## 8-4. Y/C SEPARATION CIRCUIT ADJUSTMENT

### 1. Composite A/D Level Adjustment (MB-45 A/B Board)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar (VIDEO) |
| Measurement Point | IC102 Pin ⑲ |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | RV181 |
| Specified Value | A=1.60 ± 0.05 Vp-p |

Main unit setting:
1) SOURCE IN 1 S/V SELECT····VIDEO

Control unit setting:
1) VIDEO INPUT SELECT
LINE A·····························1
LINE B·····························1

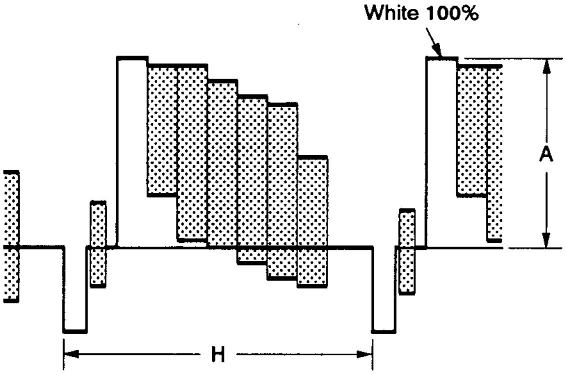


Fig. 8-15.

## 2. Y/C Separation Y D/A Level Adjustment (MB-45 A/B Board)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar (VIDEO) |
| Measurement Point | CN101 Pin ⑱ |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | RV103 |
| Specified Value | A=1.00 ± 0.02 Vp-p |

Main unit setting:
1) SOURCE IN 1 S/V SELECT···· VIDEO

Control unit setting:
1) VIDEO INPUT SELECT
    LINE A ··························· 1
    LINE B ··························· 1

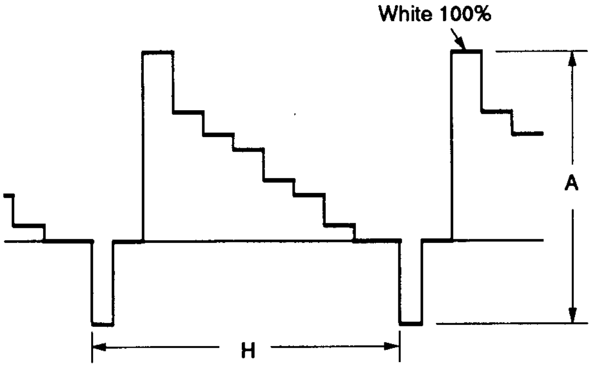


Fig. 8-16.

## 3. Y/C Separation Chroma D/A Level Adjustment (MB-45 A/B Board)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar (VIDEO) |
| Measurement Point | CN101 Pin ⑯ |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | RV102 |
| Specified Value | A=300 ± 15 mVp-p |

Main unit setting:
1) SOURCE IN 1 S/V SELECT···· VIDEO

Control unit setting:
1) VIDEO INPUT SELECT
    LINE A ··························· 1
    LINE B ··························· 1

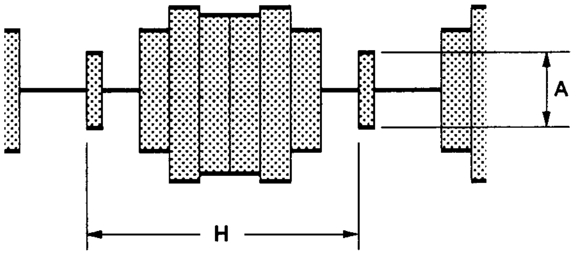


Fig. 8-17.

## 8-5. DIGITAL PROCESS CIRCUIT ADJUSTMENT

### 1. Memory Y A/D Level Adjustment (MB-45 A/B Board)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar |
| Measurement Point | Q210 emitter (IC201 Pin ⑲) |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | RV202 |
| Specified Value | A=1.70 ± 0.05 Vp-p |

Control unit setting:

1) VIDEO INPUT SELECT
   LINE A ························· 1
   LINE B ························· 1

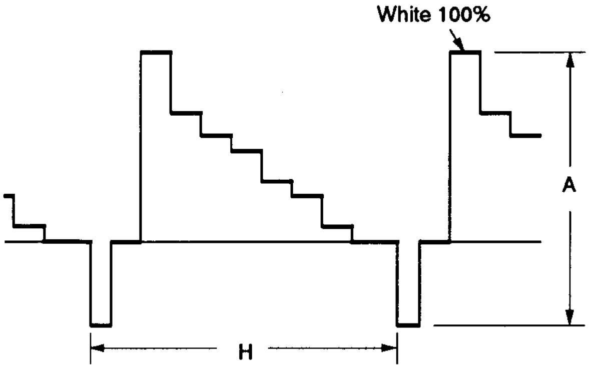


Fig. 8-18.

### 2. Memory Chroma A/D Level Adjustment (MB-45 A/B Board)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar |
| Measurement Point | D298 cathode |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | RV201 |
| Specified Value | A=800 ± 20 mVp-p |

Control unit setting:

1) VIDEO INPUT SELECT
   LINE A ························· 1
   LINE B ························· 1

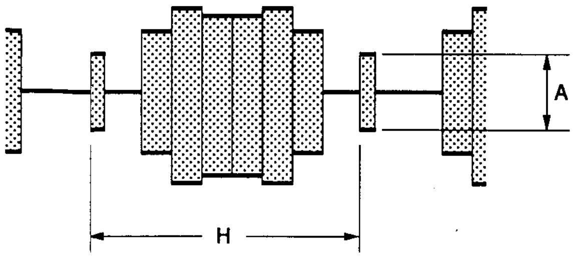


Fig. 8-19.

### 3. WRITE AFC Free Run Adjustment (MB-45 A/B Board)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar |
| Measurement Point | TP205 (IC204 Pin ⑪) |
| Measuring Instrument | Oscilloscope (DC range) |
| Adjusting Element | CV201 |
| Specified Value | 2.5±0.1Vdc |

Control unit setting:

1) VIDEO INPUT SELECT
   LINE A ························· 1
   LINE B ························· 1

### 4. WRITE APC Free Run Adjustment (MB-45 A/B Board)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar |
| Measurement Point | TP204 (IC203 Pin (51)) |
| Measuring Instrument | Oscilloscope (DC range) |
| Adjusting Element | CV202 |
| Specified Value | 3.0±0.1Vdc |

Control unit setting:

1) VIDEO INPUT SELECT
   LINE A ························· 1
   LINE B ························· 1

### 5. READ Chroma PLL Free Run Adjustment (MB-45 A/B Board)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar |
| Measurement Point | IC305 Pin ③ |
| Measuring Instrument | Oscilloscope (DC range) |
| Adjusting Element | CV301 |
| Specified Value | 2.0 ± 0.1 Vdc |

Control unit setting:

1) VIDEO INPUT SELECT
   LINE A ························· 1
   LINE B ························· 1

### 6. READ AFC Free Run Adjustment (MB-45 A/B Board)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar |
| Measurement Point | IC304 Pin ⑪ |
| Measuring Instrument | Oscilloscope (DC range) |
| Adjusting Element | CV302 |
| Specified Value | 2.5±0.1Vdc |

Control unit setting:

1) VIDEO INPUT SELECT
   LINE A ·························· 1
   LINE B ·························· 1

## 8-6. ANALOG PROCESS CIRCUIT ADJUSTMENT

**Note:** Warm up the unit for more than 10 minutes for adjustments.

**[Adjustment Procedures]**

**Y SIGNAL SYSTEM**

1. Input Y Level Adjustment
2. LINE B SYNC Level, Y Level Adjustments
3. LINE B NEGA Y AGC Adjustment
4. BACK COLOR Y Level Adjustment
5. LINEAR GATE CONTROL VOLTAGE Adjustment 1
6. LINEAR GATE OUT SYNC Level Adjustment
7. LINEAR GATE OUT Y GAIN BALANCE Adjustment 1
8. LINEAR GATE OUT Y Level Adjustment
9. LINE A NEGA Y AGC Adjustment
10. LINEAR GATE CONTROL VOLTAGE Adjustment 2
11. LINEAR GATE GAIN BALANCE Adjustment 2
12. LINE A SYNC Level, Y Level Adjustment
13. Y LINEAR GATE BALANCE Adjustment

**CHROMA SIGNAL SYSTEM**

1. Input CHROMA Level Adjustment
2. fsc PLL Free Run Adjustment
3. Burst Adjustment
4. LINE A Chroma Adjustment
5. LINE A Burst Level Adjustment
6. LINE B Chroma Adjustment
7. LINE B Burst Level Adjustment
8. BACK COLOR Chroma Adjustment
9. LINEAR GATE OUT CHROMA GAIN BALANCE Adjustment
10. LINEAR GATE OUT Chroma Adjustment
11. LINE A NEGA CHROMA Adjustment
12. LINE B NEGA CHROMA Adjustment
13. CHROMA LINEAR GATE BALANCE Adjustment

**COLOR CORRECT Circuit Adjustment**

1. JOY Center Adjustment
2. COLOR CORRECT PHASE Adjustment
3. COLOR CORRECT LEVEL Adjustment

**CHROMA KEY Circuit Adjustment**

1. HUE R–Y Adjustment 1
2. HUE R–Y Adjustment 2
3. HUE B–Y Adjustment 1
4. HUE B–Y Adjustment 2
5. INSERT GAIN Adjustment 1
6. INSERT GAIN Adjustment 2

## 8-6-1. Y SIGNAL SYSTEM

### 1. Input Y Level Adjustment (TS-122 Board)

Adjusting element for LINE B is indicated in the brackets [ ].

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar |
| Measurement Point | PP-10 board CN201 Pin ①<br>[PP-10 board CN202 Pin ①] |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | RV510 [RV508] |
| Specified Value | A=700 ± 10 mV |

Control unit setting:
1) VIDEO INPUT SELECT
   LINE A ·························· 1
   LINE B ·························· 1

Adjusting method:
1) Confirm that LUMINANCE controls A and B on the main unit are the mechanical center position.
2) Adjust RV510 [RV508] so that the Y signal level meets the specification.

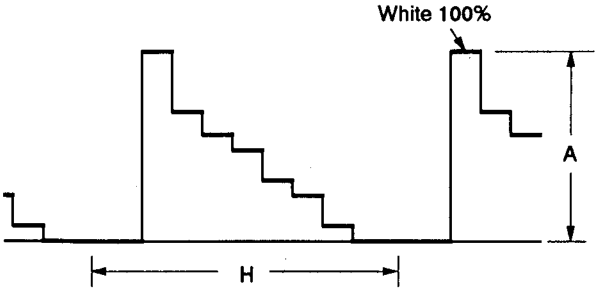


Fig. 8-20.

### 2. LINE B SYNC Level, Y Level Adjustments (PP-10 Board)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar |
| Measurement Point | W210 Pin ⑨ |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | A (SYNC): RV704<br>B (Y): RV504 |
| Specified Value | A=300 ± 10 mV<br>B=700 ± 20 mV |

Control unit setting:
1) VIDEO INPUT SELECT
   LINE B ·························· 1

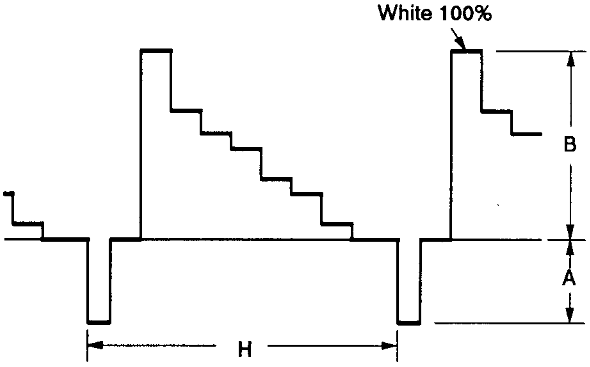


Fig. 8-21.

### 3. LINE B NEGA Y AGC Adjustment (PP-10 Board)

| | |
|---|---|
| Mode | NEGATIVE |
| Signal | Color bar |
| Measurement Point | W210 Pin ⑨ |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | RV301 |
| Specified Value | A=700 ± 20 mV |

Control unit setting:
1) VIDEO INPUT SELECT
   LINE B ·························· 1
2) EFFECT 3························· NEGATIVE

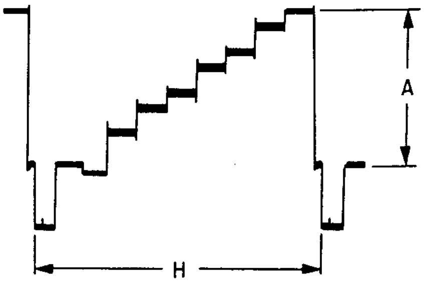


Fig. 8-22.

### 4. BACK COLOR Y Level Adjustment (PP-10 Board)

| | |
|---|---|
| Mode | BACK COLOR (WHITE) |
| Signal | Color bar |
| Measurement Point | W210 Pin ⑨ |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | RV853 |
| Specified Value | A=525 ± 20 mV |

Control unit setting:

1) VIDEO INPUT SELECT
   LINE B ………………………… BACK COLOR
2) BACK COLOR control………… WHITE

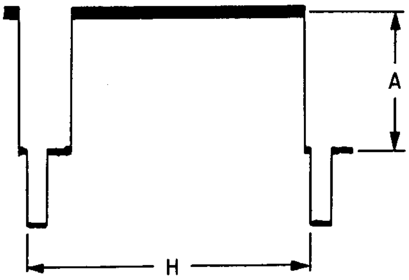


Fig. 8-23.

### 5. LINEAR GATE CONTROL VOLTAGE Adjustment 1 (PP-10 Board)

| | |
|---|---|
| Mode | WIPE (◧) |
| Signal | Color bar |
| Measurement Point | TP007 |
| Measuring Instrument | Oscilloscope (DC range) |
| Adjusting Element | A (amplitude): RV012<br>B (center): RV013 |
| Specified Value | A=450 ± 10 mVp-p<br>B=0 ± 10 mVdc |

Control unit setting:

1) MIXING lever…………………… Center
2) WIPE……………………………… ON
3) WIPE PATTERN……………… ◧

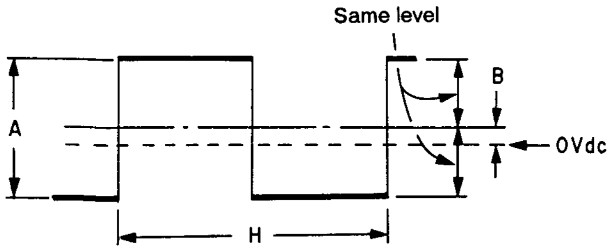


Fig. 8-24.

### 6. LINEAR GATE OUT SYNC Level Adjustment (PP-10 Board)

| | |
|---|---|
| Mode | BACK COLOR (WHITE) |
| Signal | Color bar |
| Measurement Point | W210 Pin ① |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | RV702 |
| Specified Value | A=300 ± 10 mV |

Control unit setting:

1) VIDEO INPUT SELECT
   LINE A ………………………… BACK COLOR
2) BACK COLOR control………… .WHITE
3) MIXING lever…………………… LINE A

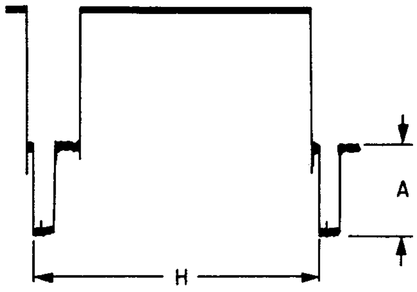


Fig. 8-25.

### 7. LINEAR GATE OUT Y GAIN BALANCE Adjustment 1 (PP-10 Board)

| | |
|---|---|
| Mode | WIPE (◧)<br>BACK COLOR (WHITE) |
| Signal | Color bar |
| Measurement Point | W210 Pin ① |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | RV103 |
| Specified Value | A=0 ± 5 mV |

Control unit setting:

1) VIDEO INPUT SELECT
   LINE A ………………………… BACK COLOR
   LINE B ………………………… BACK COLOR
2) BACK COLOR control………… WHITE
3) MIXING lever…………………… Center
4) WIPE……………………………… ON
5) WIPE PATTERN……………… ◧

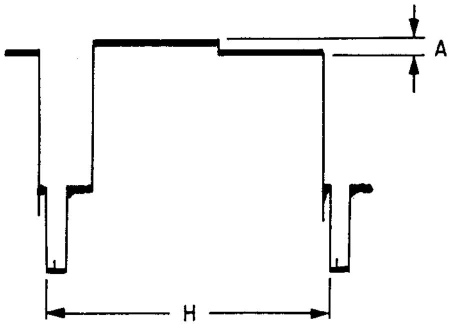


Fig. 8-26.

### 8. LINEAR GATE OUT Y Level Adjustment (PP-10 Board)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar |
| Measurement Point | W201 Pin ① |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | RV502 |
| Specified Value | A=700 ± 20 mV |

Control unit setting:

1) VIDEO INPUT SELECT
   - LINE A ·························· 1
   - LINE B ·························· 1
2) MIXING lever ····················· LINE B

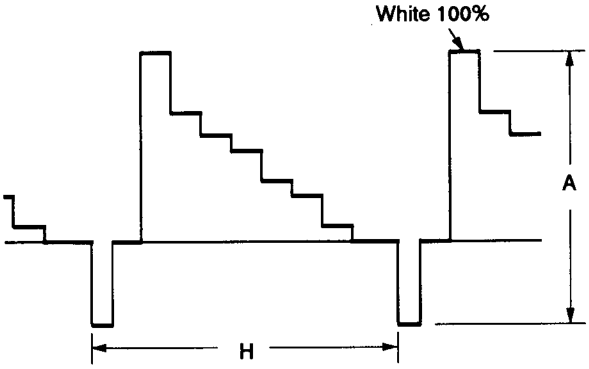


Fig. 8-27.

### 9. LINE A NEGA Y AGC Adjustment (PP-10 Board)

| | |
|---|---|
| Mode | WIPE (⬓)<br>NEGATIVE |
| Signal | Color bar |
| Measurement Point | W201 Pin ① |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | RV101 |
| Specified Value | A=0 ± 5 mV |

Control unit setting:

1) VIDEO INPUT SELECT
   - LINE A ·························· 1
   - LINE B ·························· 1
2) EFFECT 3 ························· NEGATIVE
3) WIPE ······························· ON
4) WIPE PATTERN ················· ⬓
5) MIXING lever ····················· Center

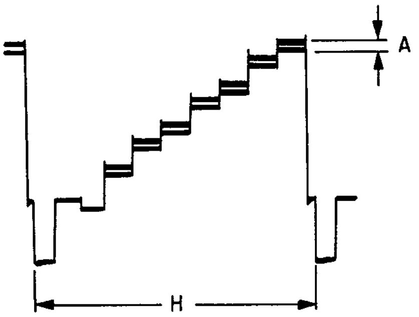


Fig. 8-28.

## 10. LINEAR GATE OUT Y GAIN BALANCE Adjustment 2 (TS-122 Board)

| | |
|---|---|
| Mode | WIPE (⬒) |
| Signal | Color bar |
| Measurement Point | PP-10 board W201 Pin ① |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | RV510 |
| Specified Value | A=0 ± 5 mVp-p |

Control unit setting:

1) VIDEO INPUT SELECT
    LINE A ·························· 1
    LINE B ·························· 1
2) WIPE ·························· ON
4) WIPE PATTERN ·················· ⬒
5) MIXING lever ·················· Center

Adjusting method:

1) Confirm that VIDEO LEVEL LUMINANCE controls A and B on the main unit are the mechanical center position.
2) Adjust RV510 on the TS-122 board so that the Y signal level difference (A) between LINE A and LINE B becomes minimum.

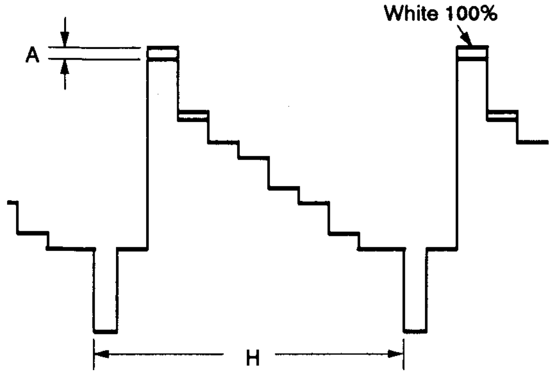


Fig. 8-29.

## 11. LINEAR GATE CONTROL VOLTAGE Adjustment 2 (PP-10 Board)

| | |
|---|---|
| Mode | MIX<br>LINE A......NORMAL<br>LINE B......NEGATIVE |
| Signal | Color bar |
| Measurement Point | W210 Pin ① |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | RV013 |
| Specified Value | A=0 ± 0.1V |

Control unit setting:

1) VIDEO INPUT SELECT
    LINE A ·························· 1
    LINE B ·························· 1
2) EFFECT
    LINE A ·························· OFF
    LINE B ·························· ON
3) EFFECT 3 ······················ NEGATIVE
4) MIX ··························· ON
5) MIXING lever ·················· Center

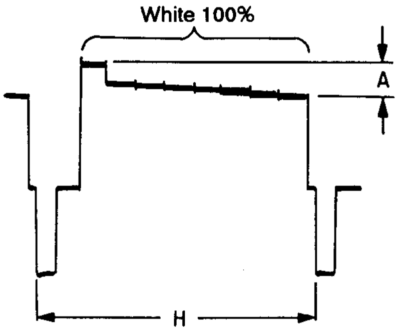


Fig. 8-30.

## 12. LINE A SYNC Level, Y Level Adjustment (PP-10 Board)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar |
| Measurement Point | W210 Pin ⑤ |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | A (SYNC): RV703<br>B (Y): RV503 |
| Specified Value | A=300 ± 10 mV<br>B=700 ± 20 mV |

Control unit setting:

1) VIDEO INPUT SELECT
   LINE A ·························· 1

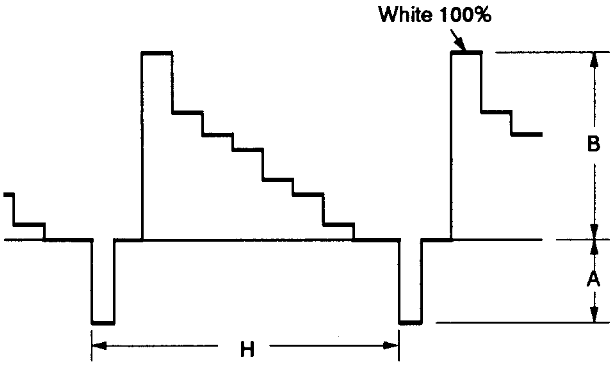


Fig. 8-31.

## 13. Y LINEAR GATE BALANCE Adjustment (PP-10 Board)

| | |
|---|---|
| Mode | WIPE (◧)<br>LINE ABACK COLOR (BLACK)<br>LINE BBACK COLOR (BLACK) |
| Measurement Point | W210 Pin ① |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | RV501 |
| Specified Value | A=0 ± 5 mV |

Control unit setting:

1) VIDEO INPUT SELECT
   LINE A ·························· BACK COLOR
   LINE B ·························· BACK COLOR
2) BACK COLOR control ·········· BLACK
3) WIPE ·································· ON
4) WIPE PATTERN ·················· ◧
5) MIXING lever ······················ Center

Adjusting method:

1) Adjust RV501 so that a switching noise becomes minimum.

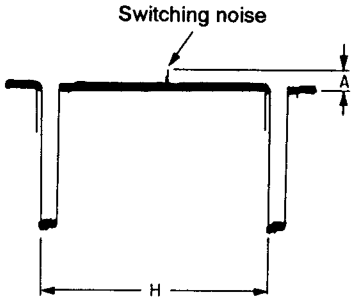


Fig. 8-32.

## 8-6-2. CHROMA SIGNAL SYSTEM

### 1. INPUT CHROMA LEVEL Adjustment (TS-122 board)

The adjusting element is shown in [ ].

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar |
| Measurement Point | Pin ③ of CN201 on PP-10 board<br>[Pin ③ of CN202 on PP-10 board] |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | RV509 [RV507] |
| Specified Value | A=900±10mVp-p |

Control unit setting:

1) VIDEO INPUT SELECT
   LINE A ·························· 1
   LINE B ·························· 1

Adjusting method:

1) Confirm that the CHROMINANCE knobs A and B of the main unit are set on the center click position.
2) Set the chroma signal level to the specified value by RV509 [RV507].

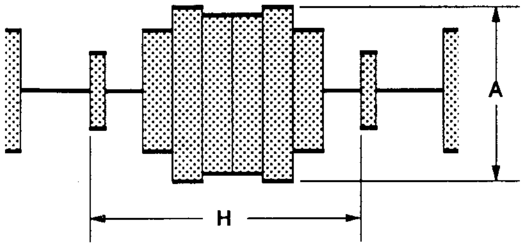


Fig. 8-33.

### 2. fsc PLL FREE-RUN Adjustment (PP-10 board)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar |
| Measurement Point | TP801 (Pin ③ of IC803) |
| Measuring Instrument | Oscilloscope (DC range) |
| Adjusting Element | CV801 |
| Specified Value | +2.0 ± 0.1 Vdc |

### 3. Burst Adjustment (PP-10 board)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar |
| Measurement Point | FS OUT A VIDEO terminal |
| Measuring Instrument | Vectorscope |
| Adjusting Element | RV802<br>RV803 |
| Specified Value | A=135° ± 1.5° |

Control unit setting:

1) VIDEO INPUT SELECT
   LINE A ·························· 1

Adjusting method:

1) Turn the PHASE knob on the vectorscope and focus the burst luminance points.
2) Set the burst luminance point to the specified phase (A) with RV802 and RV803.

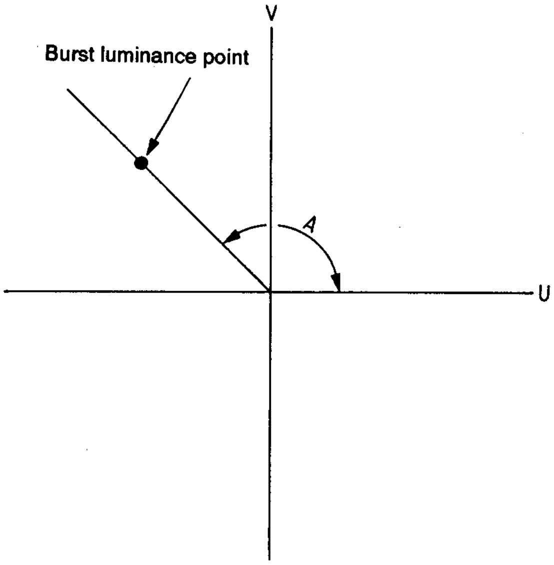


Fig. 8-34.

### 4. LINE A Chroma Adjustment (PP-10, DP-40A boards)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar |
| Measurement Point | FS OUT A VIDEO terminal |
| Measuring Instrument | Vectorscope |
| Adjusting Element | CHROMA LEVEL: PP-10 board RV603<br>BURST PHASE: PP-10 board RV801<br>CHROMA PHASE: DP-40A board RV102 |
| Specified Value | Each color luminance point should be within the specified frame (⊞). |

**Note:** The circle hole to adjust RV102 on the DP-40A board is set on the right side of the chassis. (Upper one of two holes)

Control unit setting:

1) VIDEO INPUT SELECT
   LINE A ··························· 1

Adjusting method:

1) Focus luminance point of each color that are separated into two with RV102 on the DP-40A board.
2) Set each color luminance point within the specified frame with RV603 and RV801 on the PP-10 board.

### 5. LINE A Burst Level Adjustment (PP-10 BOARD)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar |
| Measurement Point | FS OUT A VIDEO terminal |
| Measuring Instrument | Vectorscope |
| Adjusting Element | RV204 |
| Specified Value | The burst luminance point should be set on the 75% specified position. |

Control unit setting:

1) VIDEO INPUT SELECT
   LINE A ··························· 1

### 6. LINE B Chroma Adjustment (PP-10, DP-40B boards)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar |
| Measurement Point | FS OUT B VIDEO terminal |
| Measuring Instrument | Vectorscope |
| Adjusting Element | LEVEL: PP-10 board RV604<br>PHASE: DP-40B board RV102 |
| Specified Value | Each color luminance point should be set within the specified frame (⊞). |

**Note:** The circle hole to adjust RV102 on the DP-40B board is set on the right side of the chassis. (The Lower one of two holes placed vertically.)

Control unit setting:

1) VIDEO INPUT SELECT
   LINE B ··························· 1

### 7. LINE B Burst Level Adjustment (PP-10 board)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar |
| Measurement Point | FS OUT B VIDEO terminal |
| Measuring Instrument | Vectorscope |
| Adjusting Element | RV404 |
| Specified Value | The burst luminance point should be set on the 75% specified position. |

Control unit setting:

1) VIDEO INPUT SELECT
   LINE B ··························· 1

## 8. BACK COLOR CHROMA Adjustment (PP-10 board)

| | |
|---|---|
| Mode | LINE B......BACK COLOR |
| Signal | Color bar |
| Measurement Point | FS OUT B VIDEO terminal |
| Measuring Instrument | Vectorscope |
| Adjusting Element | CHROMA PHASE: RV851<br>CHROMA LEVEL: RV852 |
| Specified Value | The yellow luminance point and the blue luminance point should be set within the specified frames ( ⊞ ) respectively. |

Control unit setting:

1) VIDEO INPUT SELECT
   LINE B ·························· BACK COLOR

Adjusting method:

1) Set the BACK COLOR knob to the yellow position.
2) Set the yellow luminance point within the specified frame with RV851 and RV852.
3) Set the BACK COLOR knob to the blue position.
4) Set the blue luminance point within the specified frame with RV851 and RV852.
5) Repeat steps 1 to 4 till both luminance points are set within the specified frames.

## 9. LINEAR GATE OUT CHROMA GAIN BALANCE Adjustment (PP-10 board)

| | |
|---|---|
| Mode | WIPE ( ◧ )<br>BACK COLOR (CYAN) |
| Signal | Color bar |
| Measurement Point | PROCESSED OUT 2 VIDEO terminal |
| Measuring Instrument | Vectorscope and monitor TV |
| Adjusting Element | RV205 |
| Specified Value | The color luminance point should be set within the specified frame ( ⊞ ). |

Control unit setting:

1) VIDEO INPUT SELECT
   LINE A ·························· BACK COLOR
   LINE B ·························· BACK COLOR
2) MIXING lever····················· Center
3) WIPE································· ON
4) WIPE PATTERN················· ◧

Adjusting method:

1) Set the BACK COLOR knob to the yellow position.
2) Set the yellow luminance point within the specified frame ( ⊞ ) with RV205.
3) Turn the BACK COLOR knob and confirm that the even red and magenta luminance points are set within the specified frame. Also, confirm that the border of LINE A and LINE B is not noticeable on the monitor picture.

The border should not be noticeable.

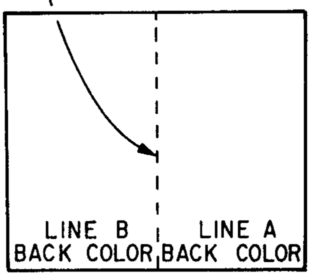


Fig. 8-35.

### 10. LINEAR GATE OUT CHROMA Adjustment (PP-10 board)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar |
| Measurement Point | PROCESSED OUT 2 VIDEO terminal |
| Measuring Instrument | Vectorscope |
| Adjusting Element | RV602 |
| Specified Value | Each color luminance point should be set within the specified frame ( ⊞ ). |

Control unit setting:

1) VIDEO INPUT SELECT
   LINE A ···························· 1
2) MIXING lever······················ LINE A

### 11. LINE A NEGA CHROMA Adjustment (PP-10 board)

| | |
|---|---|
| Mode | NEGATIVE |
| Signal | Color bar |
| Measurement Point | PROCESSED OUT 2 VIDEO terminal |
| Measuring Instrument | Vectorscope |
| Adjusting Element | LEVEL: RV202<br>MODULATION: RV201 |
| Specified Value | Yellow luminance point<br>...Be sure to set within the specified YL frame ( ⊞ ).<br>Blue luminance point<br>...Be sure to set on the just center between the B specified frame and the origin. |

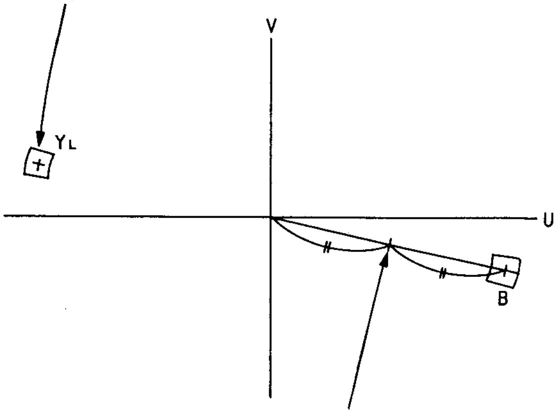
Control unit setting:

1) VIDEO INPUT SELECT
   LINE A ···························· 1
2) EFFECT 3···························· NEGATIVE
3) MIXING lever······················ LINE A

Adjusting method:

1) Set the blue luminance point within the specified point with RV202.
2) Set the yellow luminance point within the specified point with RV201.
3) Repeat steps 1 to 2.

The yellow luminance point should be set within this portion.



The blue luminance point should be set on this position.

Fig. 8-36.

## 12. LINE B NEGA CHROMA Adjustment (PP-10 board)

| | |
|---|---|
| Mode | WIPE (▄)<br>NEGATIVE |
| Signal | Color bar |
| Measurement Point | PROCESSED OUT 2 VIDEO terminal |
| Measuring Instrument | Vectorscope |
| Adjusting Element | LEVEL: RV402<br>MODULATION: RV401 |
| Specified Value | The each change of position of the yellow luminance and blue luminance point should be minimum after changing the MIXING lever from LINE A to LINE B. |

Control unit setting:

1) VIDEO INPUT SELECT
    LINE A ·························· 1
    LINE B ·························· 1
2) EFFECT 3························· NEGATIVE
3) WIPE······························· ON
4) WIPE PATTERN·················· ▄

Adjusting method:

1) Set the MIXING lever on the LINE A side.
2) Memorize the respective positions of the yellow and blue luminance points.
3) Set the MIXING lever on the LINE B side.
4) Match the blue luminance point with the position in which is memorized in step 2 with RV402. Or set it to the nearest position.
5) Match the yellow luminance point with the position in which is memorized in step 2 with RV401. Or set it to the nearest position.
6) Repeat steps 1 to 5.

## 13. CHROMA LINEAR GATE BALANCE Adjustment (PP-10 board)

| | |
|---|---|
| Mode | WIPE (◧)<br>LINE A......BACK COLOR<br>LINE B......BACK COLOR |
| Signal | Pin ③ of W210 |
| Measurement Point | Oscilloscope |
| Measuring Instrument | RV601 |
| Adjusting Element | A=0 ± 5 mV |

Control unit setting:

1) VIDEO INPUT SELECT
    LINE A ·························· BACK COLOR
    LINE B ·························· BACK COLOR
2) BACK COLOR knob ············ BLACK
3) WIPE······························· ON
4) WIPE PATTERN·················· ◧
5) MIXING lever····················· Center

Adjusting method:

1) Minimize the switching noise with RV601.

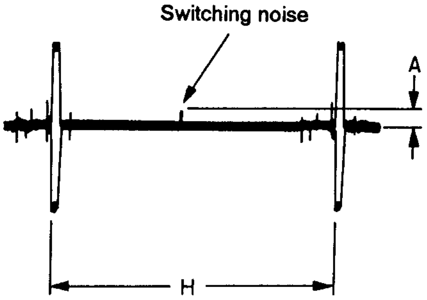


Fig. 8-37.

## 8-6-3. COLOR CORRECT CIRCUIT ADJUSTMENT

### 1. JOY CENTER Adjustment (PP-10 board)

| Mode | COLOR CORRECT |
|---|---|
| Signal | Color bar |
| Measurement Point | PROCESSED OUT 2 VIDEO terminal |
| Measuring Instrument | Vectorscope |
| Adjusting Element | R–Y: RV002<br>R–Y: RV004 |
| Specified Value | The white luminance point should match with the origin. |

Control unit setting:

1) VIDEO INPUT SELECT
   LINE A ························· 1
2) EFFECT 3························· COLOR CORRECT
3) COLOR PLUS lever ·············· Center
   (Fine adjust so that the voltages of Pin ② (JOY R) and Pin ③ (JOY B) of CN209 become +2.5 ± 0.1 Vdc respectively.)
4) MIXING lever······················ LINE A

Adjusting method:

1) Maximize GAIN of the vectorscope.
2) Match the white luminance point with the origin with RV002 and RV004.
3) Return GAIN of the vectorscope to the CAL position.

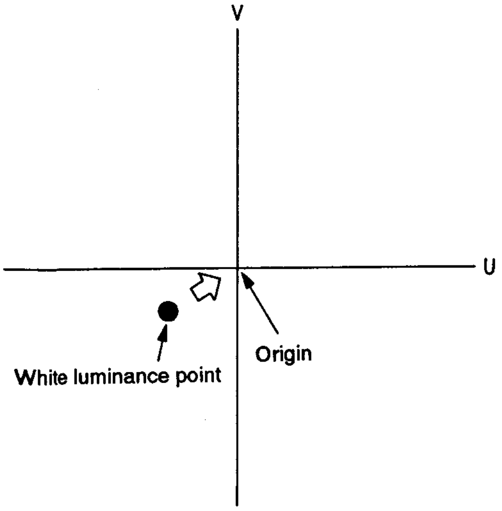


Fig. 8-38.

### 2. COLOR CORRECT PHASE Adjustment (PP-10 board)

| Mode | COLOR CORRECT |
|---|---|
| Signal | Color bar |
| Measurement Point | PROCESSED OUT 2 VIDEO terminal |
| Measuring Instrument | Vectorscope |
| Adjusting Element | RV806 |
| Specified Value | The same color luminance points should be overlap one another or should be set to the nearest position. |

Control unit setting:

1) VIDEO INPUT SELECT
   LINE A ························· 1
2) EFFECT 3························· COLOR CORRECT
3) COLOR PLUS lever ·············· RED
   (Fine adjust so that the voltage at Pin ② of CN209 (JOY R) becomes +5.0 ± 0.1 Vdc and the voltage at Pin ③ (JOY B) becomes +2.5 ± 0.1 Vdc.)
4) MIXING lever······················ LINE A

Adjusting method:

1) Adjust with RV806 the luminance points of white, yellow, cyan and green overlap as much as possible respectively.
   **Note:** The white and yellow luminance points are placed far off from red point (placed above).

### 3. COLOR CORRECT LEVEL Adjustment (PP-10 board)

| | |
|---|---|
| Mode | COLOR CORRECT |
| Signal | Color bar |
| Measurement Point | LINE A: Pin ⑦ of W210<br>LINE B: Pin ⑪ of W210 |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | LINE A: RV203<br>LINE B: RV403 |
| Specified Value | B=A ± 10 mVp-p |

Control unit setting:
1) VIDEO INPUT SELECT
   LINE A ··························· 1
   LINE B ··························· 1
2) EFFECT 3 ··························· COLOR CORRECT
3) COLOR PLUS lever ·············· Red
   (Fine adjust so that the voltage at Pin ② of CN209 (JOY R) becomes +5.0 ± 0.1 Vdc and the voltage at Pin ③ (JOY B) becomes +2.5 ± 0.1 Vdc.)

Adjusting method:
1) Connect the oscilloscope to Pin ⑦ of W210.
2) Adjust so that the white level (B) is equal to the burst level (A) with RV203.
3) Connect the oscilloscope to Pin ⑪ of W210.
4) Adjust so that the white level (B) is equal to the burst level (A) with RV403.

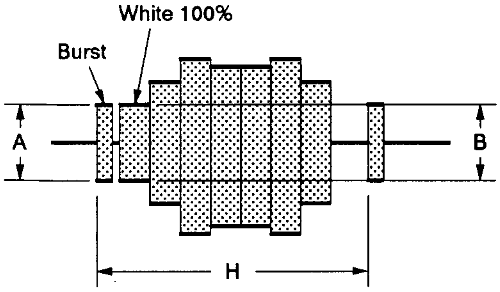


Fig. 8-39.

## 8-6-4. CHROMA KEY CIRCUIT ADJUSTMENT

### 1. HUE R-Y Adjustment 1 (PP-10 board)

| | |
|---|---|
| Mode | CHROMA KEY |
| Signal | Color bar |
| Measurement Point | TP003 |
| Measuring Instrument | Digital voltmeter |
| Adjusting Element | RV006 |
| Specified Value | +1.10 ± 0.05 Vdc |

Control unit setting:
1) VIDEO INPUT SELECT
   LINE A ··························· 1
2) CHROMA KEY ···················· ON

Adjusting method:
1) Turn the CHROMINANCE HUE knob on the control unit and adjust so that the voltage at TP003 becomes minimum.
2) Set the voltage at TP003 to the specified value with RV006.

### 2. HUE R-Y Adjustment 2 (PP-10 board)

| | |
|---|---|
| Mode | CHROMA KEY |
| Signal | Color bar |
| Measurement Point | TP901 (Pin ⑥ of IC901) |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | RV005 |
| Specified Value | A=0 ± 20 mV |

Control unit setting:
1) VIDEO INPUT SELECT
   LINE A ··························· 1
2) CHROMA KEY ···················· ON

Adjusting method:
1) Turn the CHROMINANCE HUE knob on the control unit and set the voltage at Pin ④ (HUE R) of CN209 to +2.5 ± 0.1 Vdc.
2) Minimize the signal amplitude at TP901 with RV005.

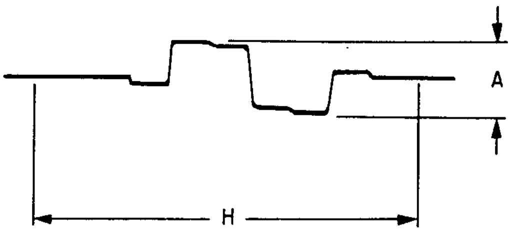


Fig. 8-40.

### 3. HUE B-Y Adjustment 1 (PP-10 board)

| | |
|---|---|
| Mode | CHROMA KEY |
| Signal | Color bar |
| Measurement Point | TP004 |
| Measuring Instrument | Digital voltmeter |
| Adjusting Element | RV008 |
| Specified Value | +1.10 ± 0.05 Vdc |

Control unit setting:

1) VIDEO INPUT SELECT
   LINE A ························· 1
2) CHROMA KEY···················ON

Adjusting method:

1) Turn the CHROMINANCE HUE knob on the control unit and adjust so that the voltage at TP004 becomes minimum.
2) Set the voltage at TP004 to the specified value with RV008.

### 4. HUE B-Y Adjustment 2 (PP-10 board)

| | |
|---|---|
| Mode | CHROMA KEY |
| Signal | Color bar |
| Measurement Point | TP902 (Pin ⑥ of IC902) |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | RV007 |
| Specified Value | 0 ± 20 mVp-p |

Control unit setting:

1) VIDEO INPUT SELECT
   LINE A ························· 1
2) CHROMA KEY···················ON

Adjusting method:

1) Turn the CHROMINANCE HUE switch on the control unit and set the voltage at Pin ⑤ (HUE B) of CN209 to +2.5 ± 0.1 Vdc.
2) Minimize the signal amplitude of TP902 with RV007.

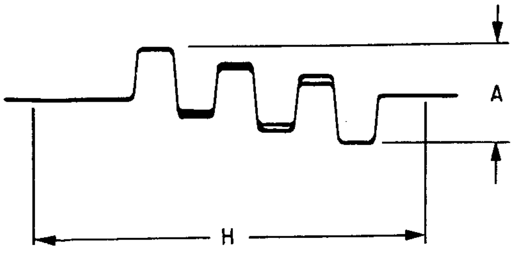


Fig. 8-41.

### 5. INSERT GAIN Adjustment 1 (PP-10 board)

| | |
|---|---|
| Mode | CHROMA KEY |
| Signal | Color bar |
| Measurement Point | Pin ③ of W210 |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | RV010 |
| Specified Value | A=0 ± 5 mVp-p |

Control unit setting:

1) VIDEO INPUT SELECT
   LINE A ························· 1
   LINE B ························· 1
2) CHROMA KEY···················ON
3) CHROMA INSERT GAIN ······MIN
4) MIXING lever·····················Line B

Adjusting method:

1) Confirm that the voltage at Pin ⑦ (INSERT GAIN) of CN209 is 0 Vdc.
2) Confirm that the CHROMINANCE LEVEL knob on the control unit is set to the center position.
3) Remove the yellow part of the color bar with the CHROMINANCE HUE knob on the control unit.
4) Adjust so that the chroma signal amplitude of the yellow part at Pin ③ waveform of W210 becomes approx. 100 mVp-p with RV010.
5) Turn RV010 slowly in the direction which the amplitude is getting smaller. Stop turning when the amplitude becomes below 5 mVp-p.
   **Note:** Do not turn it overly.

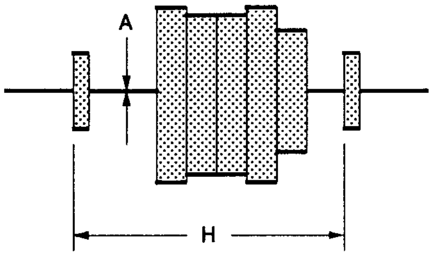


Fig. 8-42.

### 6. INSERT GAIN Adjustment 2 (PP-10 board)

| | |
|---|---|
| Mode | CHROMA KEY |
| Signal | Color bar |
| Measurement Point | TP304 |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | RV009 |
| Specified Value | A=700 ± 20 mV |

Control unit setting:

1) VIDEO INPUT SELECT
   LINE A ·························· 1
   LINE B ·························· 1
2) CHROMA KEY···················ON
3) CHROMA KEY INSERT GAIN80% position

Adjusting method:

1) Confirm that the voltage at Pin ⑦ (INSERT GAIN) of CN209 is +4.0 ± 0.1 Vdc.
2) Set Y signal level of TP304 to the specified value with RV009.

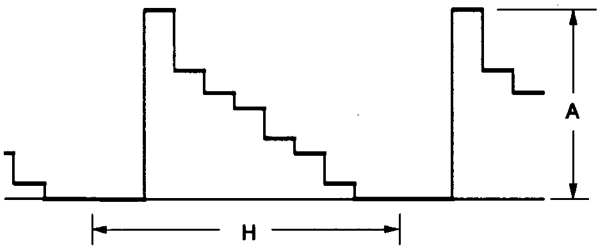


Fig. 8-43.

## 8-7. VIDEO INPUT/OUTPUT CIRCUIT ADJUSTMENT 2

### 1. FS OUT Y LEVEL Adjustment (PP-10 board)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar |
| Measurement Point | 1. FS OUT A Y terminal (Pin ③ of CNJ217)<br>2. FS OUT B Y terminal (Pin ③ of CNJ216) |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | 1. RV503 (A Y level), RV703 (A SYNC level)<br>2. RV504 (B Y level), RV704 (B SYNC level) |
| Specified Value | A=700 ± 10 mV<br>B=300 ± 10 mV |

**Note:** Each Y signal output terminal should be terminated at 75Ω .

Control unit setting:

1) VIDEO INPUT SELECT
   LINE A ·························· 1
   LINE B ·························· 1

Adjusting method:

1) Connect the oscilloscope to FS OUT A Y terminal.
2) Set Y level and SYNC level to the specified values respectively with RV503 and RV703.
3) Connect the oscilloscope to FS OUT B Y terminal.
4) Set Y level and SYNC level to the specified values respectively with RV504 and RV704.

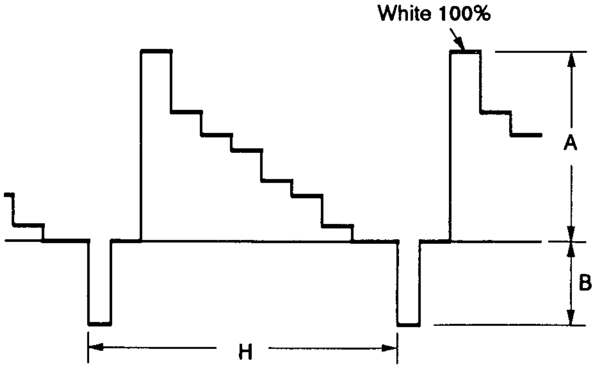


Fig. 8-44.

## 2. FS OUT CHROMA LEVEL Adjustment (PP-10 board)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar |
| Measurement Point | 1. FS OUT A CHROMA terminal (Pin ④ of CNJ217)<br>2. FS OUT B CHROMA terminal (Pin ④ of CNJ216) |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | 1. RV603 (A C level)<br>2. RV604 (B C level) |
| Specified Value | A=300 ± 10 mV |

**Note:** Each chroma signal output terminal should be terminated at 75Ω .

Control unit setting:
1) VIDEO INPUT SELECT
   LINE A ························· 1
   LINE B ························· 1

Adjusting method:
1) Connect the oscilloscope to FS OUT A CHROMA terminal.
2) Set the burst level to the specified value with RV603.
3) Connect the oscilloscope to FS OUT B CHROMA terminal.
4) Set the burst level to the specified value with RV604.

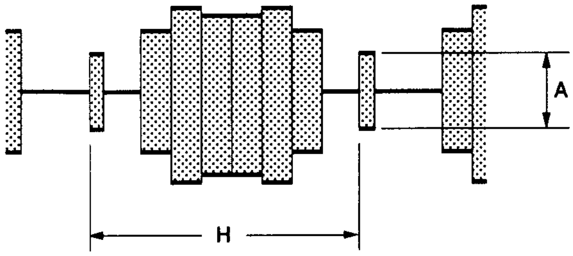


Fig. 8-45.

## 3. FS OUT VIDEO LEVEL Adjustment (TS-125 board)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar |
| Measurement Point | 1. FS OUT A VIDEO terminal (CNJ208)<br>2. FS OUT B VIDEO terminal (CNJ207) |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | 1. RV306 (FS A V Y), RV322 (FS A V C)<br>2. RV309 (FS B V Y), RV321 (FS B V C) |
| Specified Value | A=1000 ± 10 mV<br>B=300 ± 10 mV |

**Note:** Each video output terminal should be terminated at 70Ω .

Control unit setting:
1) VIDEO INPUT SELECT
   LINE A ························· 1
   LINE B ························· 1

Adjusting method:
1) Connect the oscilloscope to FS OUT A VIDEO terminal.
2) Set the Y level and the burst level to the specified values respectively with RV306 and RV322.
3) Connect the oscilloscope to FS OUT B VIDEO terminal.
4) Set the Y level and the burst level to the specified values respectively with RV309 and RV321.

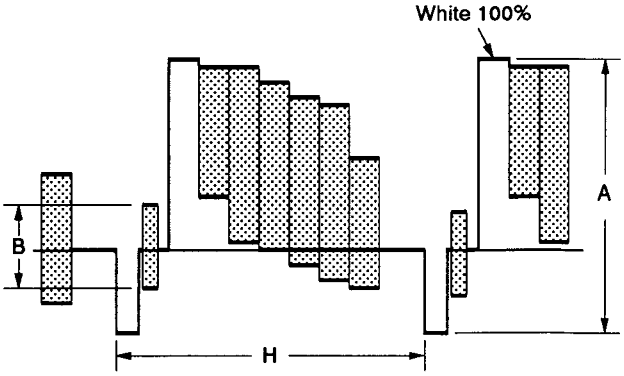


Fig. 8-46.

## 4. LINEAR GATE OUT Y LEVEL Adjustment (PP-10 board)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar |
| Measurement Point | Pin ③ of W312 on TS-127 board (MONITOR OUT Y) |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | A: RV502 (P Y LEVEL)<br>B: RV702 (P SYNC LEVEL) |
| Specified Value | A: 700 ± 10 mV<br>B: 300 ± 10 mV |

Control unit setting:

1) VIDEO INPUT SELECT
   LINE A ·························· 1
   LINE B ·························· 1
2) MONITOR SELECT VIDEO ··· PROCESS OUT

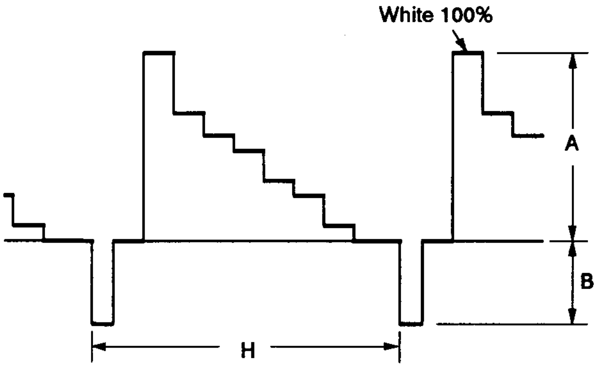


Fig. 8-47.

## 5. LINEAR GATE OUT CHROMA LEVEL Adjustment (PP-10 board)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar |
| Measurement Point | Pin ⑤ of W312 on TS-127 board (MONITOR OUT C) |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | RV602 (P Y LEVEL) |
| Specified Value | A=300 ± 10 mV |

Control unit setting:

1) VIDEO INPUT SELECT
   LINE A ·························· 1
   LINE B ·························· 1
2) MONITOR SELECT VIDEO ··· PROCESS OUT

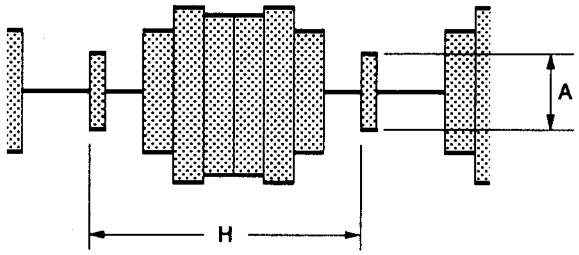


Fig. 8-48.

## 6. LINEAR GATE OUT VIDEO LEVEL Adjustment (TS-126 board)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar |
| Measurement Point | Pin ① of W312 on TS-127 board (MONITOR OUT V) |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | A: RV405 (AB V Y)<br>B: RV406 (AB V C) |
| Specified Value | A: 1000 ± 10 mV<br>B: 300 ± 10 mV |

Control unit setting:

1) VIDEO INPUT SELECT
   LINE A ··························· 1
   LINE B ··························· 1
2) MONITOR SELECT VIDEO ··· PROCESS OUT

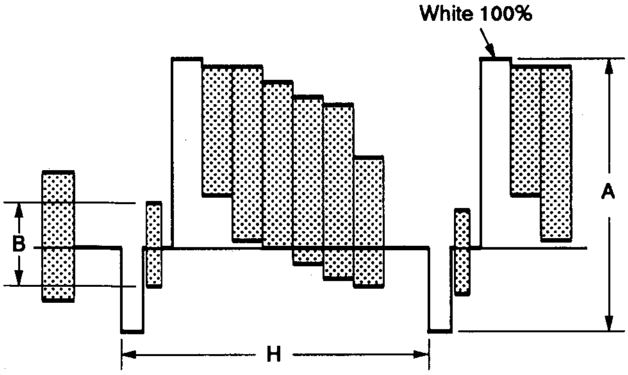


Fig. 8-49.

## 7. EDIT MONITOR VIDEO LEVEL Adjustment (TS-126 board)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar |
| Measurement Point | MONITOR OUT VIDEO terminal |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | A: RV403 (EDIT V Y)<br>B: RV404 (EDIT V C) |
| Specified Value | A: 1000 ± 10 mV<br>B: 300 ± 10 mV |

**Note:** Each VIDEO output terminal should be terminated at 75Ω.

Control unit setting:

1) VIDEO INPUT SELECT
   LINE A ··························· 1
   LINE B ··························· 1
2) MIXING lever ······················ Center
3) MONITOR SELECT VIDEO ··· EDIT MONITOR

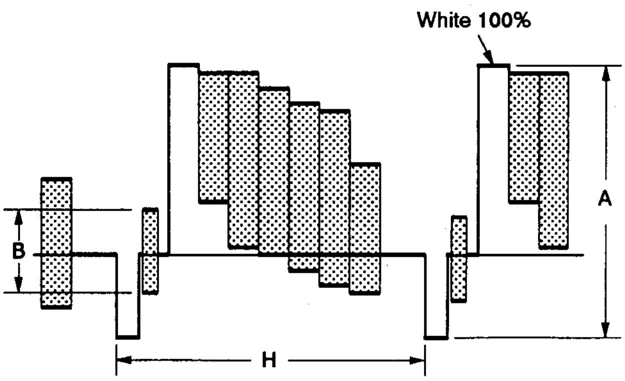


Fig. 8-50.

## 8-8. EDIT MONITOR, EXT KEY MONITOR CIRCUIT ADJUSTMENT

**[Adjusting Order]**

1. EDIT DECODER APC ADJUSTMENT
2. EDIT DECODER PHASE, LEVEL ADJUSTMENT
3. EDIT MONITOR A/D Y LEVEL ADJUSTMENT
4. EDIT MONITOR POSITION ADJUSTMENT
5. EDIT ENCODER PLL ADJUSTMENT
6. EDIT ENCODER CARRIER BALANCE ADJUSTMENT
7. EDIT ENCODER BURST ADJUSTMENT
8. EDIT Y LEVEL ADJUSTMENT
9. EXT KEY MONITOR LEVEL ADJUSTMENT
10. EDIT CHROMA LEVEL ADJUSTMENT

### 1. EDIT DECODER APC Adjustment (DP-40A/B boards)

| | |
|---|---|
| Mode | Normal |
| Signal | No signal |
| Measurement Point | TP104 (Pin ⑩ of IC501) |
| Measuring Instrument | Frequency counter |
| Adjusting Element | CV501 |
| Specified Value | 4433618 ± 20 Hz |

Control unit setting:

1) VIDEO INPUT SELECT
   LINE A
   LINE B } ············ Select the terminal not input signal.

Connection:

1) Connect between Pin ㉕ of IC502 and GND with 1 kΩ resistor.

### 2. EDIT DECODER Phase, Level Adjustment (DP-40A/B boards)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar |
| Measurement Point | CH1 (X): TP106 (Pin ⑦ of IC504)<br>CH2 (X): TP105 (Pin ⑥ of IC504) |
| Measuring Instrument | Oscilloscope (X-Y mode) |
| Adjusting Element | Level: RV501<br>Phase: RV502 |
| Specified Value | 1) The respective color luminance points should overlap between same colors.<br>2) A=0.80 ± 0.05 Vp-p |

Control unit setting:

1) VIDEO INPUT SELECT
   LINE A ························· 1
   LINE B ························· 1

Adjusting method:

1) Overlap the waveforms with RV502.
2) Set the amplitude (A) of the Y axis direction (CH1) to the specified value with RV501.

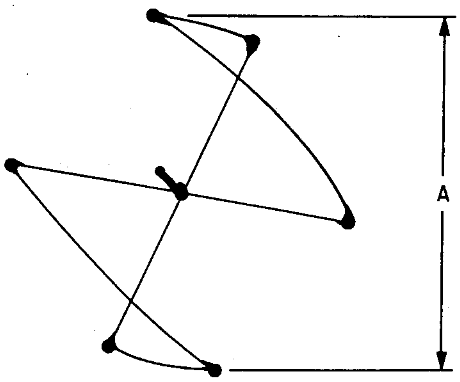


Fig. 8-51.

### 3. EDIT MONITOR A/D Y LEVEL Adjustment (DP-40 A/B boards)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar |
| Measurement Point | TP107 (Pin ⑧ of IC504) |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | RV504 |
| Specified Value | A=0.80 ± 0.05 Vp-p |

Control unit setting:

1) VIDEO INPUT SELECT
   - LINE A ························· 1
   - LINE B ························· 1

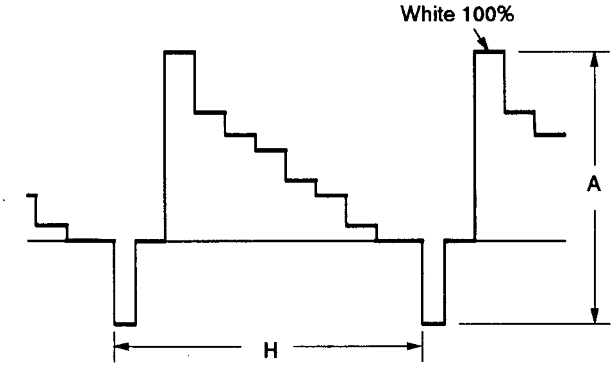


Fig. 8-52.

### 4. EDIT MONITOR Position Adjustment (DP-40 A/B boards)

| | |
|---|---|
| Mode | Normal |
| Signal | Crosshatch, etc. |
| Measurement Point | MONITOR OUT VIDEO terminal |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | RV503 |
| Specified Value | DP-40A board: A=4.7 ± 0.1 μsec.<br>DP-40B board: B=4.7 ± 0.1 μsec. |

Control unit setting:

1) VIDEO INPUT SELECT
   - LINE A ························· 1 & BACK COLOR
   - LINE B ························· 1 & BACK COLOR
2) BACK COLOR knob ············ WHITE
3) MONITOR SELECT VIDEO ··· EDIT MONITOR

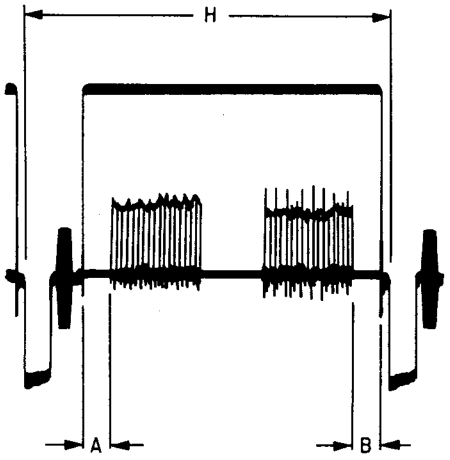


Fig. 8-53.

### 5. EDIT ENCODER PLL Adjustment (CB-30 board)

| | |
|---|---|
| Measurement Point | Pin ③ of IC122 |
| Measuring Instrument | Oscilloscope (DC range) |
| Adjusting Element | CV001 |
| Specified Value | 2.0 ± 0.1 Vdc |

### 6. EDIT ENCODER CARRIER BALANCE Adjustment (CB-30 board)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar |
| Measurement Point | MONITOR OUT VIDEO terminal |
| Measuring Instrument | Vectorscope |
| Adjusting Element | RV104<br>RV105 |
| Specified Value | The white luminance point of the child picture should match with the origin. |

Control unit setting:

1) MONITOR SELECT VIDEO ··· EDIT MONITOR
2) VIDEO INPUT SELECT
    - LINE A ···························· 1 & BACK COLOR
    - LINE B ···························· 1 & BACK COLOR
3) BACK COLOR knob ············· BLACK

### 7. EDIT ENCODER BURST Adjustment (CB-30 board)

| | |
|---|---|
| Mode | Normal |
| Signal | Input the color bar signal to the EXT IN terminal |
| Measurement Point | MONITOR OUT VIDEO terminal |
| Measuring Instrument | Vectorscope |
| Adjusting Element | U LEVEL: RV106<br>V LEVEL: RV107<br>LEVEL: RV108 |
| Specified Value | The burst luminance point should be in the 75% specified position. |

Control unit setting:

1) MONITOR SELECT VIDEO ··· EXT KEY

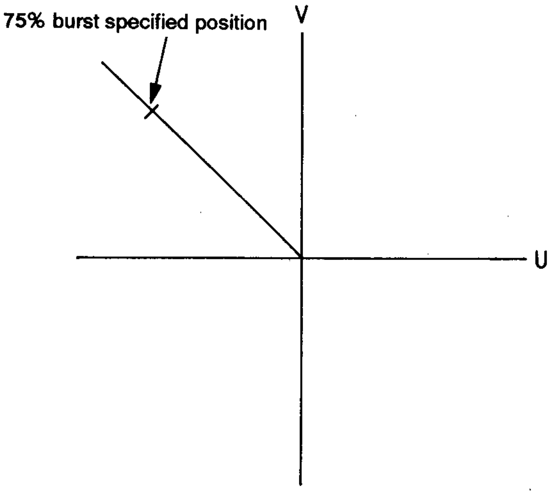


Fig. 8-54.

## 8. **EDIT Y LEVEL ADJUSTMENT** (CB-30 board)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar |
| Measurement Point | Pin ⑦ of W114 |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | RV102 |
| Specified Value | A=700 ± 50 mV |

Control unit setting:

1) VIDEO INPUT SELECT
    - LINE A ························· 1
    - LINE B ························· 1
2) MONITOR SELECT VIDEO ··· EDIT MONITOR

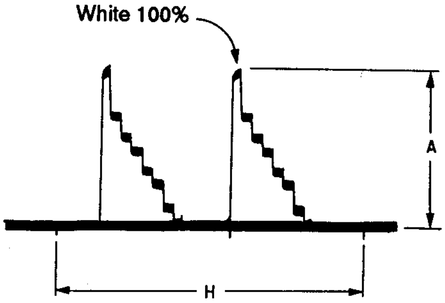


Fig. 8-55.

## 9. **EXT KEY MONITOR LEVEL Adjustment (TS-126 board)**

| | |
|---|---|
| Mode | EXT KEY |
| Signal | EXT IN terminal: Color bar |
| Measurement Point | Pin ① of W312 of TS-127 board (MONITOR OUT V) |
| Measuring Instrument | Oscilloscope |
| Adjusting Element | A: RV401 (EXT V Y)<br>B: RV402 (EXT V C) |
| Specified Value | A=700 ± 10 mV<br>B=300 ± 10 mV |

Control unit setting:

1) MONITOR SELECT VIDEO ··· EXT KEY
2) EXT KEY ························· ON
3) EXT KEY KEY LEVEL knob ·· Center

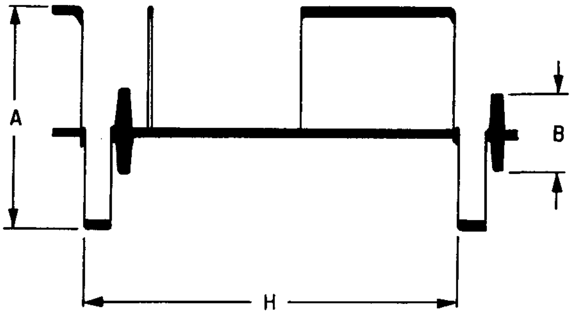


Fig. 8-56.

### 10. EDIT CHROMA LEVEL Adjustment (CB-30 board)

| | |
|---|---|
| Mode | Normal |
| Signal | Color bar |
| Measurement Point | MONITOR OUT VIDEO terminal |
| Measuring Instrument | Vectorscope |
| Adjusting Element | PHASE: RV001<br>R–Y: RV101<br>B–Y: RV103 |
| Specified Value | Each color luminance point should be within the large specified frame (⬚). |

Control unit setting:
1) VIDEO INPUT SELECT
   LINE A ··························· 1 & BACK COLOR
   LINE B ··························· 1 & BACK COLOR
2) BACK COLOR knob ············· BLACK
3) MONITOR SELECT VIDEO ··· EDIT MONITOR

Adjusting method:
1) Overlap the respective color luminance points between same colors with RV001.
2) Set respective color luminance points within the large specified frame with RV101 and RV103.

## 8-9. AUDIO CIRCUIT ADJUSTMENT

### 1. FADER REFERENCE VOLTAGE Adjustment (AP-20 board)

| | |
|---|---|
| Mode | MIX |
| Signal | No signal |
| Measurement Point | TP302 |
| Measuring Instrument | Digital voltmeter |
| Adjusting Element | RV305 |
| Specified Value | 3.2 ± 0.1 Vdc |

### 2. FADER CONTROL VOLTAGE Adjustment 1 (AP-20 board)

| | |
|---|---|
| Mode | MIX |
| Signal | No signal |
| Measurement Point | TP301 |
| Measuring Instrument | Digital voltmeter |
| Adjusting Element | RV303 |
| Specified Value | 6.4 ± 0.1 Vdc |

Adjusting method:
1) Set the MIXING lever of the control unit to the LINE B side.
2) Set the voltage at TP301 to 6.4 ± 0.1 Vdc with RV303.
3) Set the MIXING lever to the LINE A side.
4) Confirm that the voltage at TP301 is $0^{+0.2}_{-0}$ Vdc.

### 3. FADER CONTROL VOLTAGE Adjustment (AP-20 board)

| | |
|---|---|
| Mode | MIX |
| Signal | No signal |
| Measurement Point | TP303 |
| Measuring Instrument | Digital volt meter |
| Adjusting Element | RV304 |
| Specified Value | 6.4 ± 0.1 Vdc |

Adjusting method:
1) Set the MIXING lever of the control unit to the LINE A side.
2) Set the voltage at TP303 to 6.4 ± 0.1 Vdc with RV304.
3) Set the MIXING lever to the LINE B side.
4) Confirm that the voltage at TP303 is $0^{+0.2}_{-0}$ Vdc.

### 4. FADER OUT LEVEL Adjustment (AP-20 board)

| | |
|---|---|
| Mode | MIX |
| Signal | SOURCE IN 1<br>SOURCE IN 1 L and R<br>400 Hz, –10 dBs<br>SOURCE IN 2<br>No signal |
| Measurement Point | SOURCE IN 2 L and R |
| Measuring Instrument | Monitor OUT L [R] terminal |
| Adjusting Element | Audio level meter |
| Specified Value | RV301 [RV302] |

Control unit setting:

1) AUDIO INPUT SELECT········VIDEO LINK
2) VIDEO INPUT SELECT
    LINE A ···························· 1
    LINE B ···························· 2
3) MONITOR SELECT AUDIO··· PROCESS OUT

Adjusting method:

1) Set the MIXING lever of the control unit to the LINE A side.
2) Set the 400 Hz signal level to –10 ± 0.5 dBs with RV301 [RV302].
3) Set the MIXING lever to the LINE B side.
4) Confirm that the signal level is –70 dBs or less.
5) Switch the VIDEO INPUT SELECT of the control unit as follows.
    LINE A ···························· 2
    LINE B ···························· 1
6) Set the MIXING lever to the LINE A side.
7) Confirm that the signal level is –70 dBs or less.
8) Set the MIXING lever to the LINE B side.
9) Confirm that the 400 Hz signal level is –10 ± 0.5 dBs.

## 8-10. CONTROL UNIT ADJUSTMENT

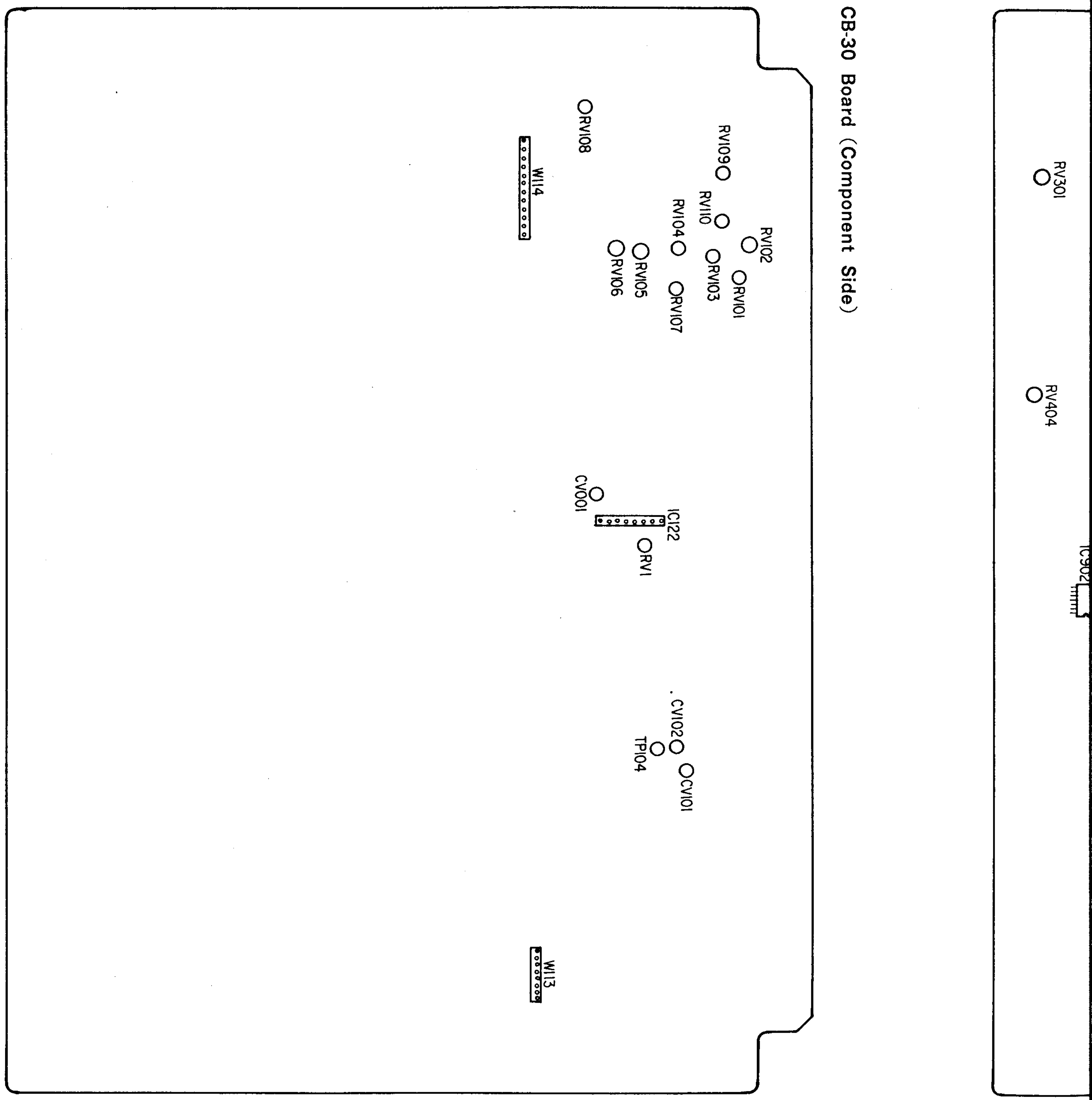
### 1. Power Supply Voltage Check (CM-12E board)

| | |
|---|---|
| Measuring Instrument | Digital voltmeter |
| +15V check | |
| Measurement Point | Pin ④ of CN001 |
| Specified Value | 15.5 ± 0.5 Vdc |
| +5V (A) check | |
| Measurement Point | Pin ③ of IC701 |
| Specified Value | 5.0 ± 0.05 Vdc |

### 2. +5V(D) Adjustment (CM-12E board)

| | |
|---|---|
| Measurement Point | Pin ② of IC002 |
| Measuring Instrument | Digital voltmeter |
| Adjusting Element | RV701 |
| Specified Value | 5.15 ± 0.05 Vdc |

## 8-11. PARTS ARRANGEMENT DIAGRAM FOR ADJUSTMENTS


CB-30 Board (Component Side)

MENT

M-12E board)

er

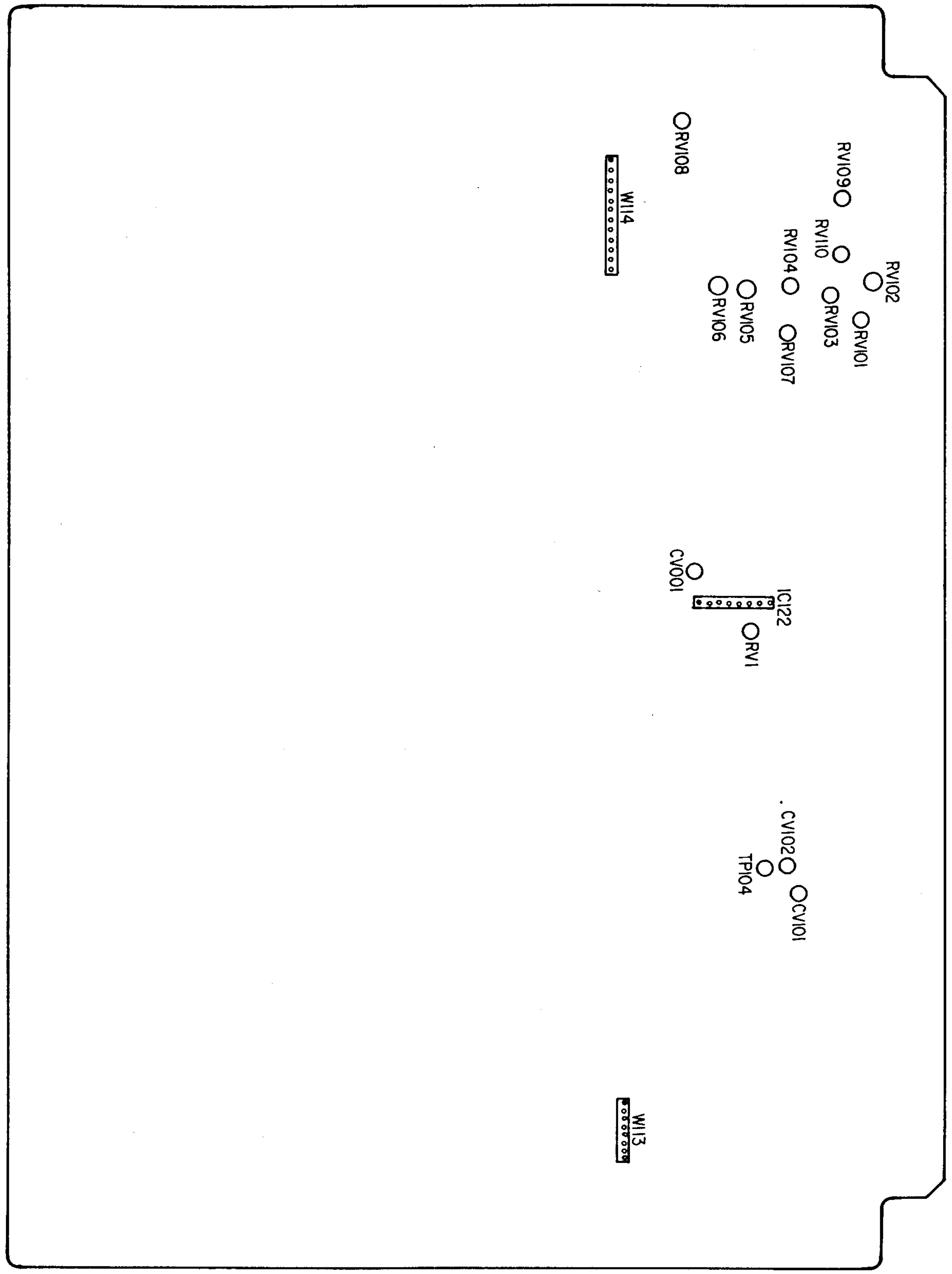
1

rd)

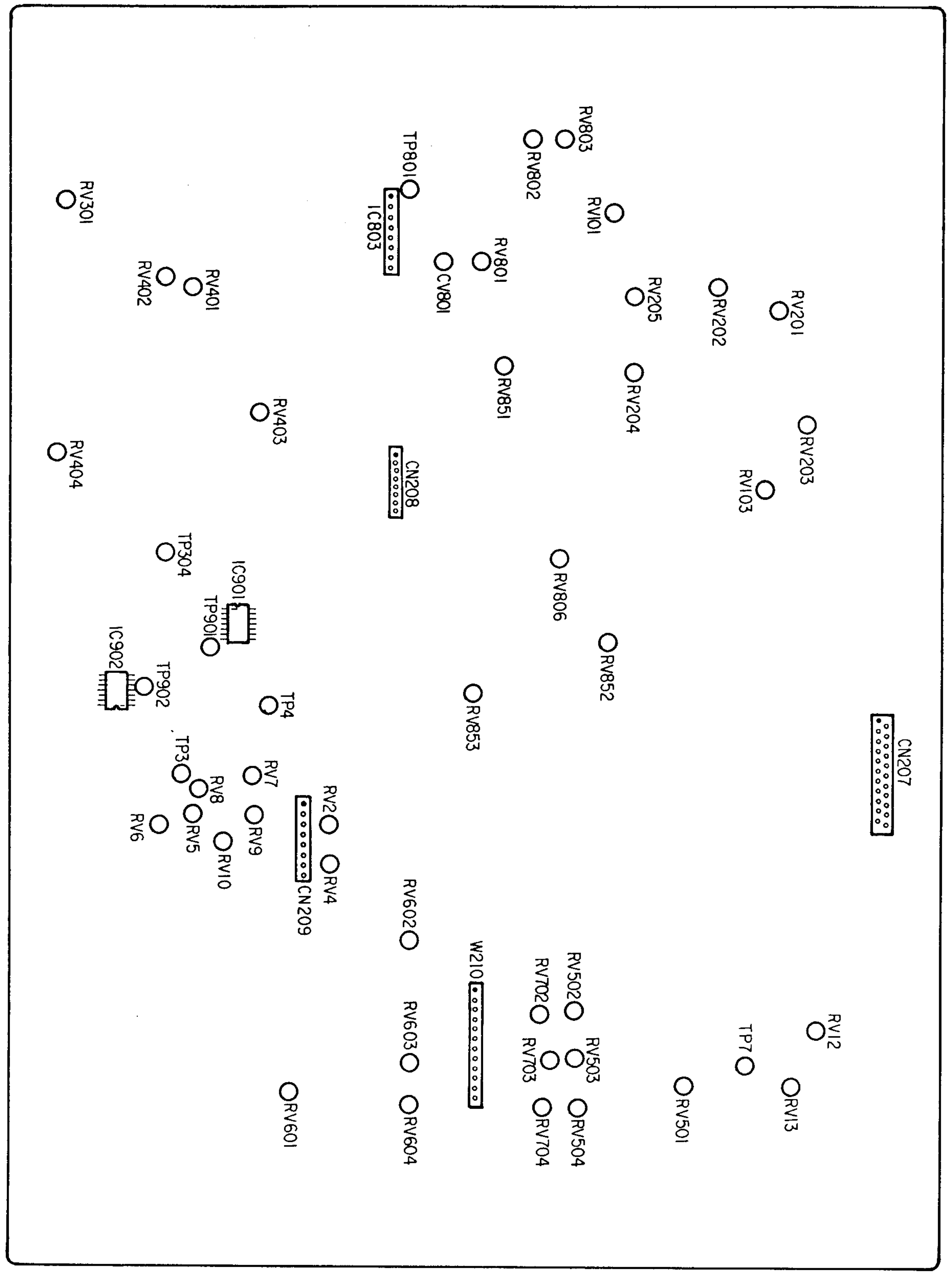
er

c

## 8-11. PARTS ARRANGEMENT DIAGRAM FOR ADJUSTMENTS

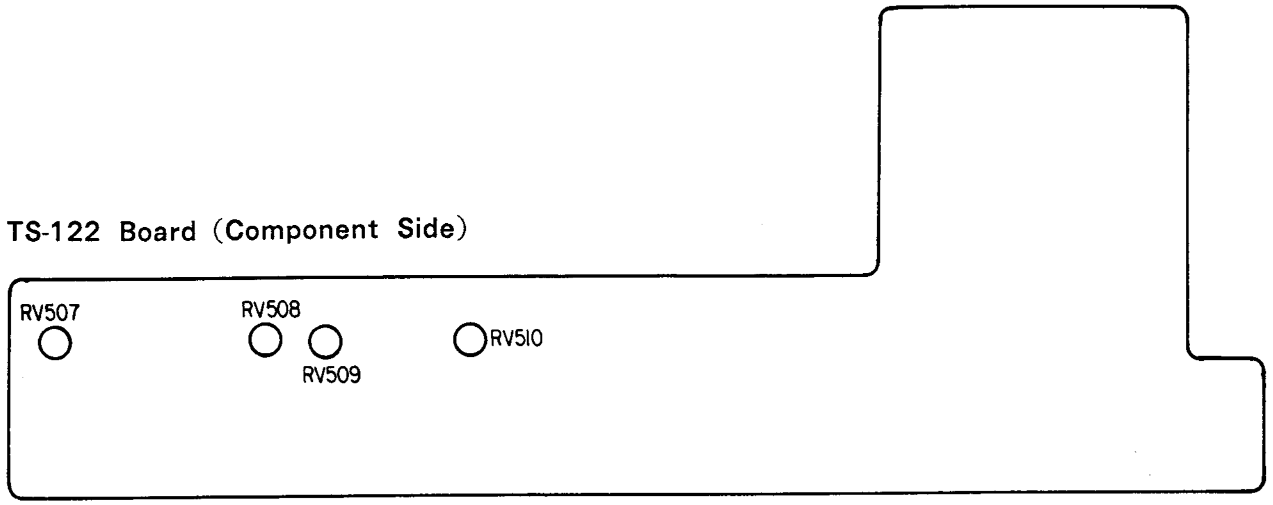

RV108
W114
RV109
RV110
RV102
RV104
RV101
RV103
RV105
RV106
RV107
CV001
IC122
RV1
CV102
TP104
CV101
W113

**CB-30 Board (Component Side)**

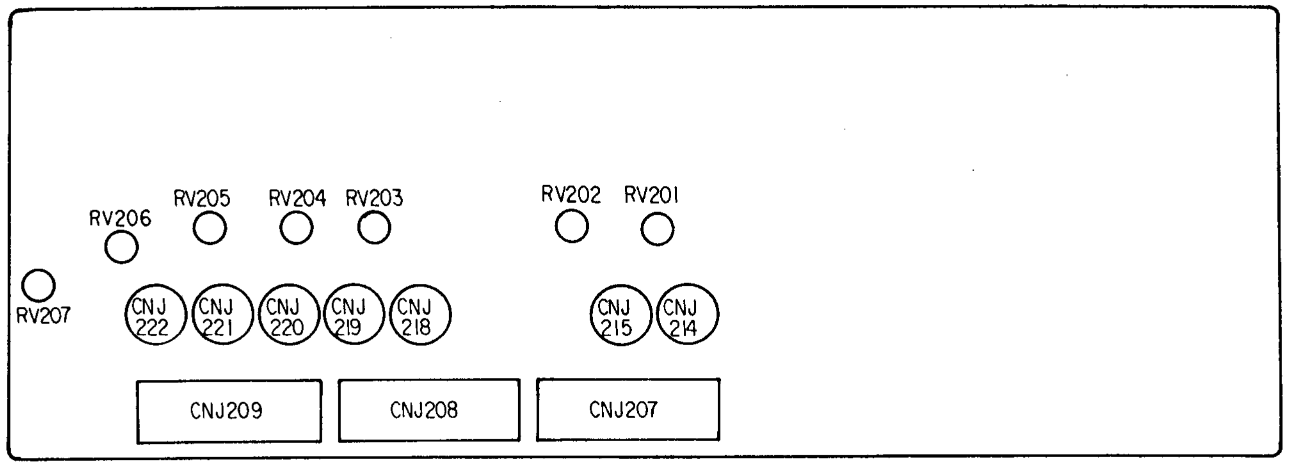

RV803
RV802
TP801
IC803
RV101
RV301
RV801
CV801
RV401
RV402
RV205
RV202
RV201
RV851
RV204
RV403
RV404
CN208
RV203
RV103
TP304
IC901
TP901
RV806
IC902
TP902
RV852
TP4
RV853
CN207
TP3
RV7
RV8
RV2
RV6
RV5
RV9
RV10
RV4
CN209
RV602
W210
RV502
RV702
RV12
TP7
RV603
RV503
RV703
RV501
RV13
RV601
RV604
RV504
RV704

**PP-10 Board (Component Side)**

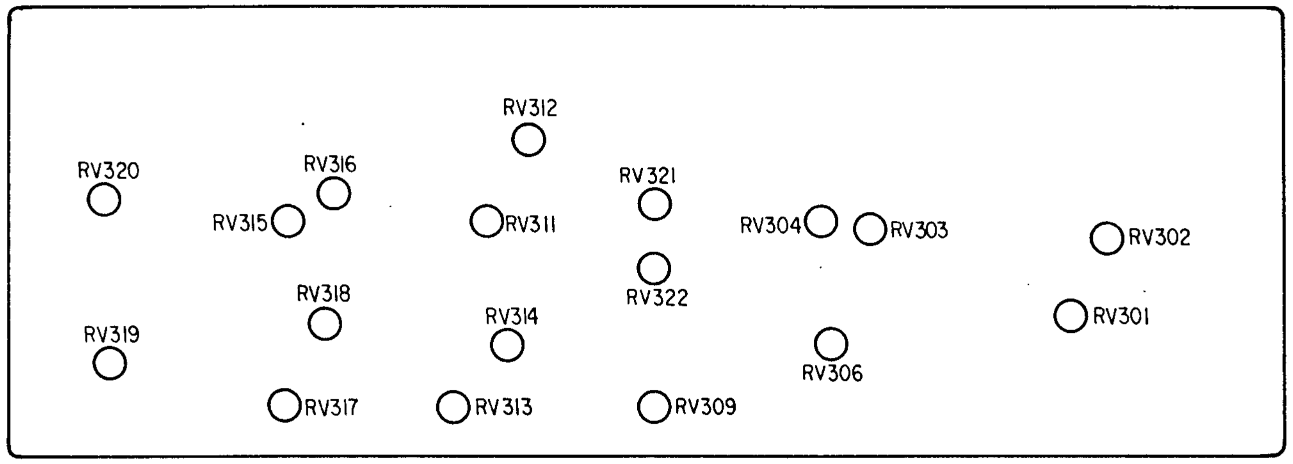
## TS-122 Board (Component Side)


RV507
RV508
RV509
RV510

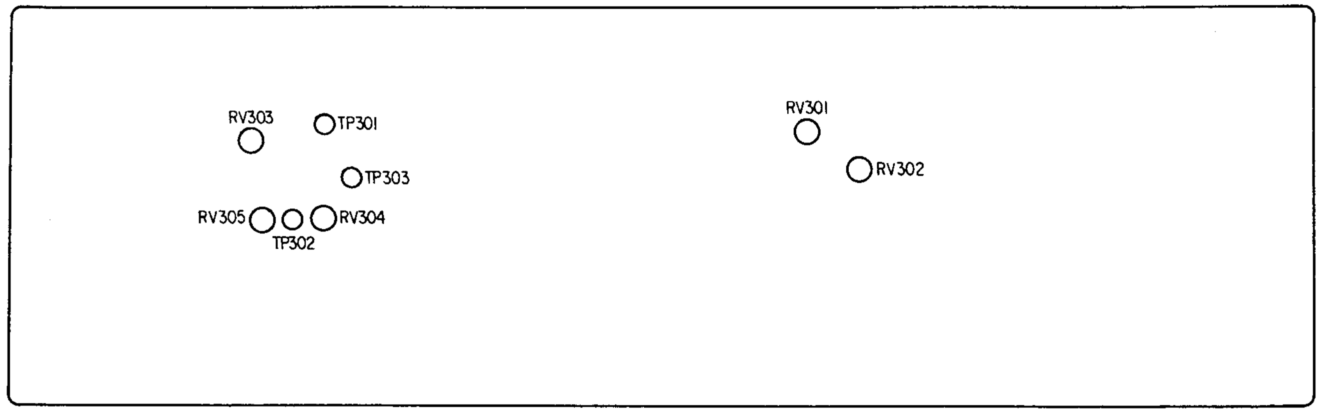
## TS-124 Board (Component Side)


RV206
RV205
RV204
RV203
RV202
RV201
RV207
CNJ 222
CNJ 221
CNJ 220
CNJ 219
CNJ 218
CNJ 215
CNJ 214
CNJ209
CNJ208
CNJ207

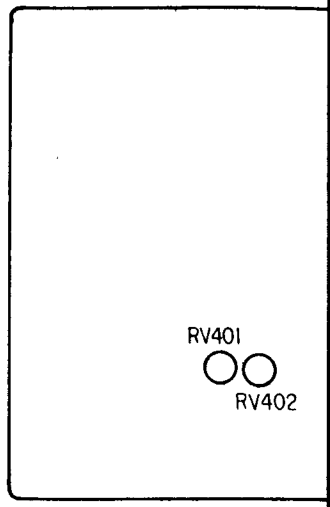
## TS-125 Board (Component Side)


RV312
RV320
RV316
RV321
RV315
RV311
RV304
RV303
RV302
RV322
RV318
RV319
RV314
RV306
RV301
RV317
RV313
RV309

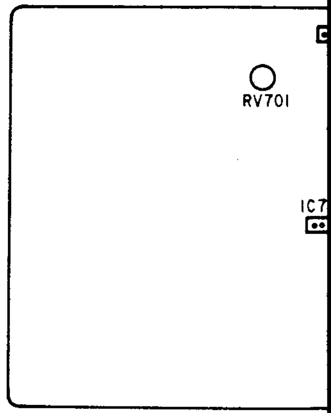
## AP-20 Board (Component Side)


RV303
TP301
RV301
TP303
RV302
RV305
RV304
TP302

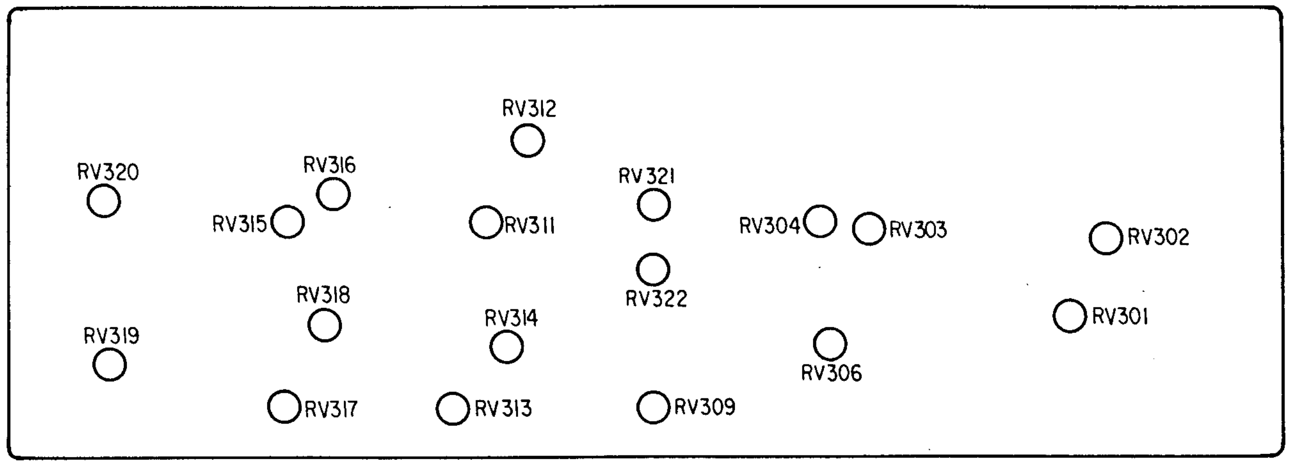
## TS-126 Board (Compon


RV401
RV402

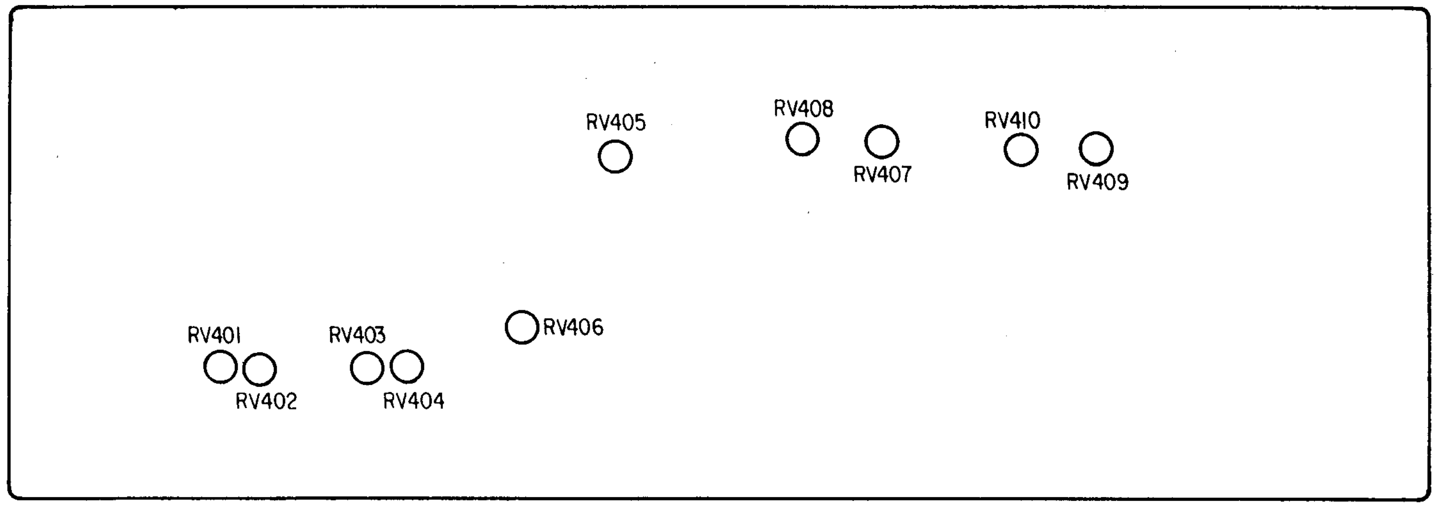
## CM-12 Board (Compon



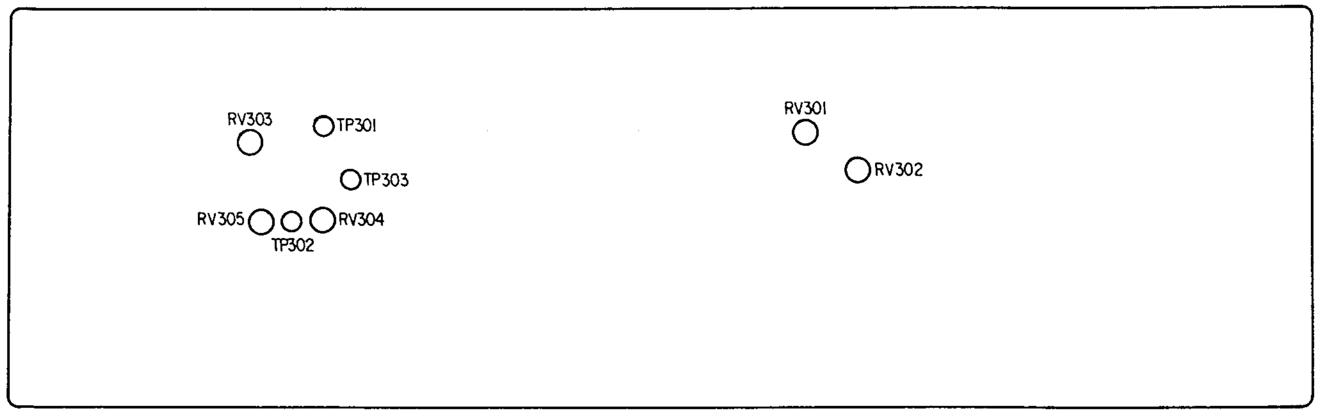
TS-125 Board (Component Side)


RV312
RV320
RV316
RV315
RV311
RV321
RV304
RV303
RV302
RV318
RV322
RV314
RV319
RV301
RV306
RV317
RV313
RV309

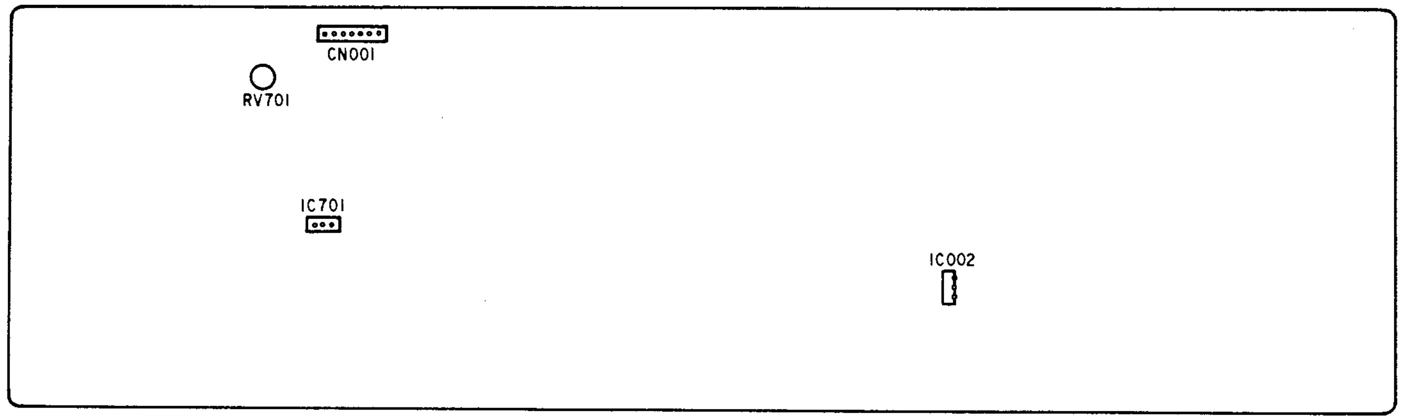
TS-126 Board (Component Side)


RV405
RV408
RV407
RV410
RV409
RV401
RV403
RV406
RV402
RV404

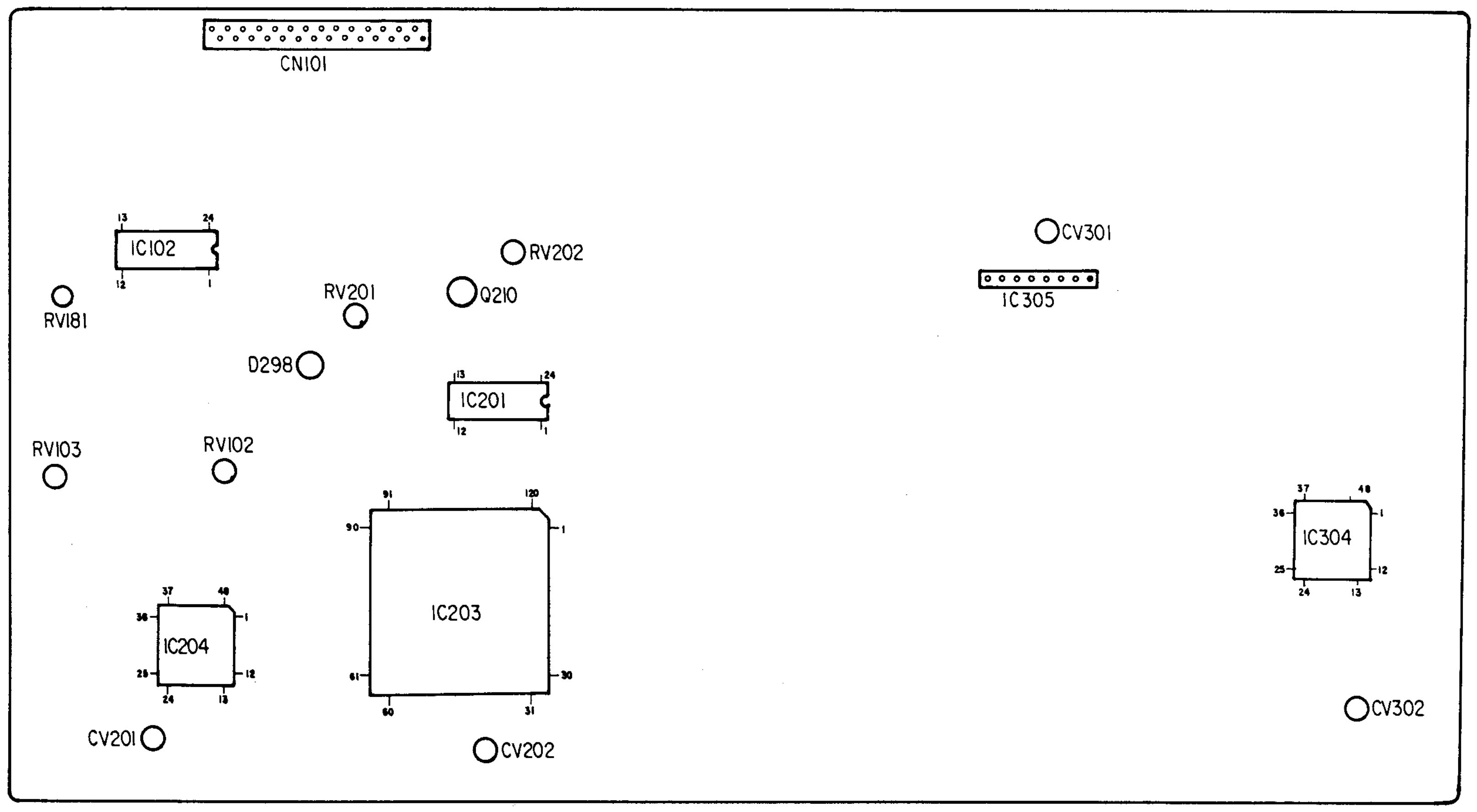
AP-20 Board (Component Side)


RV303
TP301
TP303
RV305
RV304
TP302
RV301
RV302

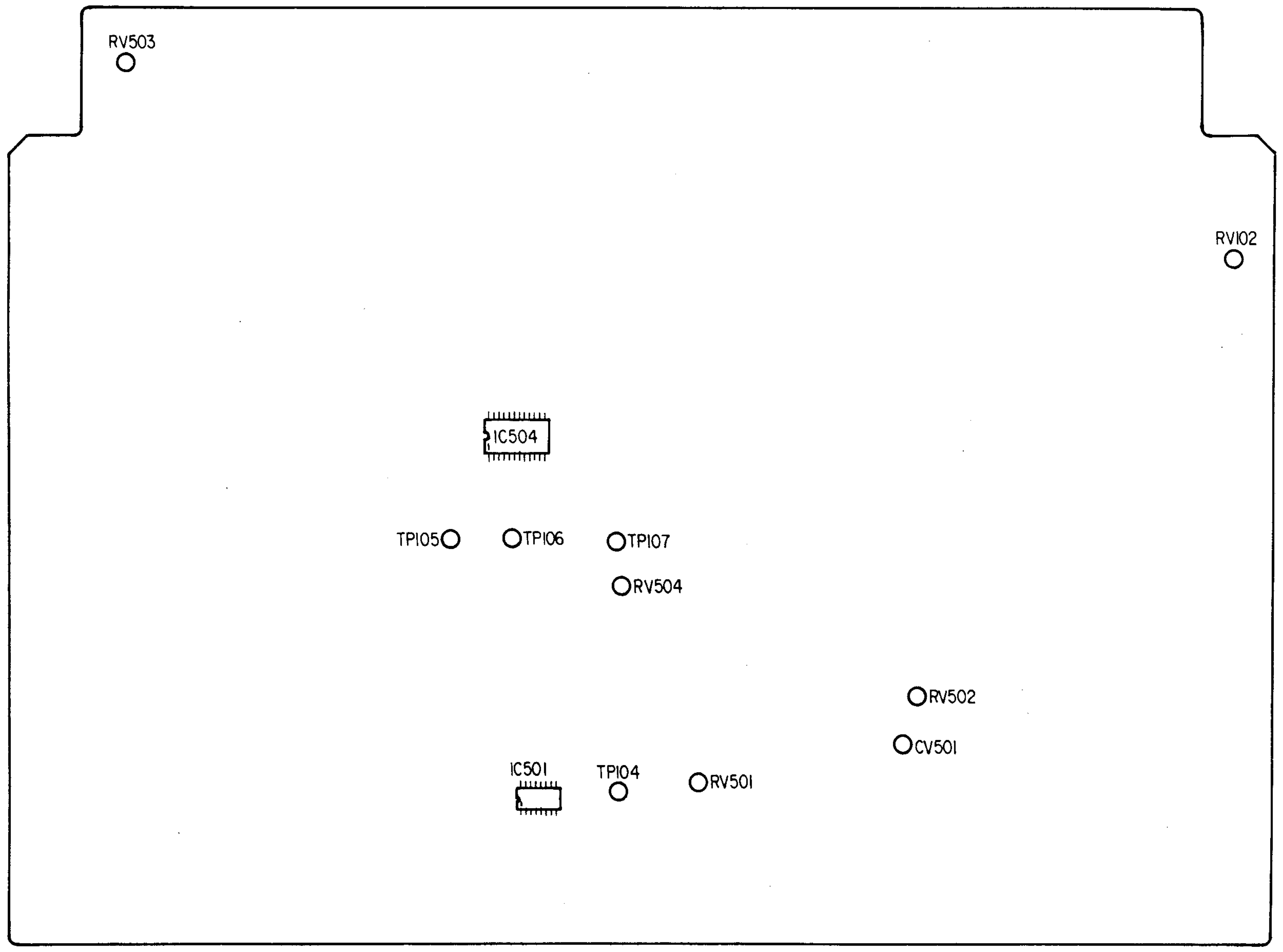
CM-12 Board (Component Side)


CN001
RV701
IC701
IC002

## MB-45 Board (Component Side)


CN101
IC102
13
24
12
1
RV181
RV201
RV202
Q210
CV301
IC305
D298
IC201
13
24
12
1
RV103
RV102
IC203
91
120
90
1
61
30
60
31
IC304
37
48
36
1
25
12
24
13
IC204
37
48
36
1
25
12
24
13
CV201
CV202
CV302

## DP-40A/B Board (Component Side)


RV503
RV102
IC504
TP105
TP106
TP107
RV504
RV502
CV501
IC501
TP104
RV501